



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

400 Seventh Street, S.W.  
Washington, D.C. 20590

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**DYNAMIC SCIENCE, INC.**  
**In-Depth Accident Investigation**

**Contract Number DTNH22-94-D-27058**  
**Case Number DSI-94-AB-15**

, 1994

## TECHNICAL SUMMARY

CONTRACTOR: Dynamic Science, Inc.  
CONTRACT NUMBER: DTNH 22-94-D-27058  
CASE NUMBER: DSI-94-AB-15

[REDACTED]

This single vehicle crash occurred on a four-lane, divided, asphalt paved, rural road in [REDACTED] Maryland during the early morning hours of a summer weekday ([REDACTED] 94).

Vehicle 1, a 1994 Dodge Shadow, was being driven southeast, in southeast bound travel lane one, at a speed estimated to have been between 97 and 105 KPH (60 and 65 MPH) by the 23 year old male driver who was wearing the available three-point lap/shoulder safety restraints. Occupant 2, a 17 year old male, was seated in the right front seating position. He was restrained by the available two-point, automatic, motorized shoulder restraint and the available two-point manual lap restraint. Occupant 3, a 20 year old female, was sitting unrestrained in the right rear seating position.

The driver of Vehicle 1 tested positive for cocaine and Darvon, and drug use is deemed to be a contributing factor in this crash.

The driver of Vehicle 1 apparently fell asleep while driving and the vehicle drifted off the right edge of the road. Vehicle 1 continued in a relatively straight line down a grassy embankment, across a shallow drainage ditch, and impacted two utility pole guy wires. The vehicle continued through a brushy stand of vegetation and sideswiped two trees with the right side plane.

Vehicle 1 then impacted a large tree with the left front plane in a head-on configuration. The Delta V for this impact was computed, using CRASH III PC, as 37 KPH (23 MPH) using a CDC of 12FYEW5 and a PDOF of 355 degrees. The combined direct and induced damage width was 152 cm (60 in), and the maximum crush depth was 127 cm (50 in) at C<sub>1</sub>. The forces involved in crash event 4 exceeded the manufacturer's threshold in the vehicle's supplemental restraint system, and the driver's side airbag deployed.

At impact four, Vehicle 1 began to rotate counterclockwise while continuing its forward motion. The right side plane impacted a large tree and the front plane impacted a small, dead tree as the vehicle came to final rest facing east approximately 6 m (20 ft) south of impact 4.

The driver of Vehicle 1 sustained major injuries consisting of closed head injuries, fractures, dislocations, lacerations and contusions; maximum AIS = AIS-5. The driver was entrapped and extensive extrication procedures were required to remove him from the vehicle. He was transported

by air to a regional trauma center where he was admitted for treatment. Occupant 2 sustained minor injuries consisting of contusions; maximum AIS = AIS-1. Occupant 3 sustained minor injuries consisting of a fracture and a sprain; maximum AIS = AIS-2. Neither Occupant 2 nor 3 were entrapped in the vehicle. They were both transported to a local hospital by land where they were treated and released.

Vehicle 1 sustained major damage in this crash and was towed from the scene.



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*The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points be coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.*

*Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.*

**DYNAMIC SCIENCE, INC.**  
**ACCIDENT INVESTIGATION**  
**CASE NUMBER: DSI-94-AB-15**

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**ACCIDENT DATA:**

**Location:** [REDACTED] Maryland  
**Area/Type:** Rural  
**Date/Time:** Summer/Early morning  
**Accident Type:** Car/Fixed object - ran off road

**INJURY SEVERITY:**

**Vehicle 1:** Driver (case occupant). AIS-5  
R/F Occupant, AIS-1  
R/R Occupant, AIS-2

**AMBIENCE:**

**Viewing Conditions:** Night, no viewing restrictions  
**Cloud Cover:** Clear  
**Precipitation:** None  
**Temperature:** 21-24° C, (70-75° F)  
**Road Surface:** Dry

**ROADWAY:**

**VEHICLE 1**

<b>Type:</b>	4-lane, divided
<b>Width:</b>	27.1 m (88.9 ft)
<b>Traffic Density:</b>	Very light
<b>Median:</b>	4.6 m (15.2 ft)
<b>Edge:</b>	Southbound 3.9m (12.8 ft) asphalt paved shoulder
<b>Surface:</b>	Asphalt
<b>Reported Defects:</b>	None
<b>Co-efficient of Friction (est.):</b>	.90
<b>Vertical Alignment:</b>	Level
<b>Horizontal Alignment:</b>	Straight

**Traffic Controls:**

**VEHICLE 1**

<b>Signals:</b>	None
<b>Signs:</b>	Advisory signs only
<b>Speed Limit:</b>	89 KPH (55 MPH)
<b>Markings:</b>	Single, solid white painted line separates SW shoulder from SE bound travel lane one. Single, broken white painted line separates SE bound travel lanes one and two. Single solid yellow painted line denotes NE edge of travel lane two.

**VEHICLES:**

**VEHICLE 1**

<b>Description:</b>	1994 Dodge Shadow 3-door
<b>Odometer:</b>	11,925 km (7,410 mi)
<b>Engine:</b>	I 4/ 2.2 L
<b>Vehicle Modifications:</b>	None
<b>Tire Condition:</b>	Excellent, tread depth 7/32", no abnormal tread wear patterns
<b>Manual Restraints:</b>	3-point lap/shoulder restraints at L/F, L/R and R/R seating positions. 2-point lap restraints at R/F and C/R seating positions.
<b>Automatic Restraints:</b>	Driver's side airbag. 2- point motorized shoulder restraint at R/F seating position.
<b>Reported Defects:</b>	None
<b>Cargo:</b>	23 kg (50 lb)
<b>Windshield Damage:</b>	Cracked by impact forces.
<b>Fleet:</b>	None
<b>Tow Status:</b>	Towed due to crash damage

**VEHICLE DAMAGE:**

		<b>VEHICLE 1</b>	
<b>Object Struck:</b>	Double metal guy wires	Small tree 5.1 cm (2.0 in) diameter	Tree 21.1 cm (8.3 in) diameter
<b>Event Number:</b>	01	02	03
<b>CDC:</b>	12FZLN1	12RFES2	12RPES1
<b>Maximum Crush:</b>	<3.8 cm (<1.5 in) @ front bumper	approx. 33.5 cm (13.2 in) @ right front fender distributed	approx. 9.1cm (3.6 in) @ right front door distributed

**VEHICLE VELOCITY ESTIMATES:**

		<b>VEHICLE 1</b>	
<b>Impact Speed (estimated):</b>	80 to 89 KPH (50 to 55 MPH)	72 to 80 KPH (45 to 50 MPH)	64 to 72 KPH (40 to 45 MPH)
<b>Total Delta V:</b>	Not computed	Not computed	Not computed
<b>Longitudinal Delta V:</b>		Sideswipe	Sideswipe
<b>Lateral Delta V:</b>			
<b>Energy Dissipation:</b>			

(continued next page)

**VEHICLE DAMAGE:**  
(con't)

		<b>VEHICLE 1</b>	
<b>Object Struck:</b>	Tree 64.3 cm (25.3 in) diameter	Tree 53.8 cm (21.2 in) diameter	Dead tree 25.4 cm (10.0 in) diameter
<b>Event Number:</b>	04	05	06
<b>CDC:</b>	12FYEW5	03RPAW3	12FRLU1
<b>Maximum Crush:</b>	126.6 cm (49.9 in) @ C <sub>1</sub>	45.5 cm (17.9 in) @ 175.2 cm (69 in) rearward of R/F axle	No residual deformation

**VEHICLE VELOCITY ESTIMATES:**

		<b>VEHICLE 1</b>	
<b>Impact Speed (estimated):</b>	56 to 64 KPH (35 to 40 MPH)	16 to 24 KPH (10 to 15 MPH)	2 to 8 KPH (1 to 5 MPH)
<b>Total Delta V:</b>	37 KPH (23 MPH)	Not computed	Not computed
<b>Longitudinal Delta V:</b>	-36.8 KPH (-22.9 MPH)		
<b>Lateral Delta V:</b>	3.2 KPH (2 MPH)		
<b>Energy Dissipation:</b>	88,783.9j (65,474.9 ft-lb)		

**Calculations based upon:** Delta V: CRASH III PC, damage only

Speed Estimates:

$$V = \sqrt{Vo^2 \pm 2 \cdot a \cdot D}$$

$$a = g \cdot f \quad f = .25 \text{ grass; } .60 \text{ brush/dirt}$$

$$g = 32.2$$

$$S = \frac{V}{1.466}$$



**COLLISION SEQUENCE:**

**PRE-CRASH**

This single vehicle crash occurred during the early morning hours of a summer weekday on a four-lane, divided, asphalt paved, rural roadway in [REDACTED] Maryland. The weather was clear, there were no weather related viewing restrictions and the road surface was dry and free of defects. It was dark, the roadway was not illuminated and there was no other traffic at the time of this crash. The posted speed limit was 89 KPH (55 MPH).

The trafficway measures 27.1 m (88.9 ft) in width and consists of two northwest bound travel lanes separated from two southeast bound travel lanes by a 4.6 m (15.2 ft) grass median. The southeast bound travel lanes are separated by a broken, white painted line. Travel lane 2 is separated from the grass median by a single, solid yellow painted line. Travel lane one is separated from the 3.9 m (12.8 ft) asphalt paved shoulder by a single, solid white painted line. The southeast bound travel lanes are straight and level. The road surface has an estimated coefficient of friction of .90. The coefficient of friction for the grassy roadside is estimated to be .25 and the brushy stand of vegetation has an estimated coefficient of friction of .60.

Vehicle 1, a 1994 Dodge Shadow 3-door, was being driven southeast, in southeast bound travel lane one, at a speed estimated to have been between 97 and 105 KPH (60 and 65 MPH) by the 23 year old male driver (the case occupant). The driver was properly restrained by the available three-point, manual lap/shoulder restraints. Occupant 2, a 17 year old male, was seated in the right front seating position. He was properly restrained by the available two-point, automatic, motorized shoulder restraint and the available two-point manual lap restraint. Occupant 3, a 20 year old female, was sitting unrestrained by the available three-point, manual lap/shoulder restraints in the right rear seating position.

Prior to the crash, Occupants 2 and 3 were asleep in their respective seating positions and appear not to have been under the influence of drugs or alcohol. However, blood tests administered to the driver of Vehicle 1 more than one hour post crash were positive for cocaine and Darvon, and drugs are deemed to have been a contributing factor in this crash.

It appears that the driver of Vehicle 1 fell asleep while driving and the vehicle began a gradual drift to the right. The vehicle crossed the asphalt paved shoulder and departed the southwest edge of the road. As the

vehicle departed the road in a straight southerly path, it travelled down a negative 20 degree grass covered embankment, crossed a shallow drainage ditch, and continued in a straight path across the level grass covered roadside toward a stand of trees and underbrush.

**Crash:**

As Vehicle 1 neared the stand of trees, and without any apparent evasive actions, the front bumper sheared a pair of utility pole guy wires. A CDC of 12FZLN1 was assigned using a PDOF of 360 degrees. The combined direct and induced damage width was approximately 30.5 cm (12 in), and the maximum crush depth was less than 3.8 cm (1.5 in).

Vehicle 1 continued south, in a straight line without evasive action, for approximately 3.5 m (11.5 ft) where the right front fender impacted a 5.1 cm (2 in) diameter tree in a sideswipe configuration. A CDC of 12RFES2 was assigned using a PDOF of 360 degrees. The combined direct and induced damage length was approximately 140 cm (55.1 in), and the maximum crush depth was 25 cm (9.8 in).

Continuing south for approximately 1.8 m (6 ft), the right front door impacted a 21.1 cm (8.3 in) diameter tree in a sideswipe configuration. The CDC for this impact was 12RPES1 using a PDOF of 360 degrees. The combined direct and induced damage length was approximately 68 cm (26.8 in), and the maximum crush depth was 11 cm (4.3 in). Delta V's for events 1, 2 and 3 were not computed due to impact configurations and/or subsequent impacts.

Vehicle 1 continued south, in a straight line, 6.4 m (21 ft) from event 3 and the left front plane impacted a 64.3 cm (25.3 in) diameter tree in a head-on configuration. The Delta V for this impact was computed, using CRASH III PC, as 37 KPH (23 MPH) using a CDC of 12FYEW5 and a PDOF of 355 degrees. The combined direct and induced damage width was 152 cm (60 in), and the maximum crush depth was 126.6 cm (49.9 in) at C<sub>1</sub>. The forces in this event (event 4) exceeded the manufacturer's threshold in the supplemental restraint system, and the driver's side airbag deployed.

Vehicle 1 continued south for 4.6 m (15 ft) while rotating counter-clockwise approximately 70 degrees and impacted a 53.8 cm (21.2 in) diameter tree with the right side plane. The CDC for this impact was 03RPAW3 using a PDOF of 80 degrees. The combined direct and induced damage width was approximately 80 cm (31.5 in), and the maximum crush depth was 28.5 cm (11.2 in) approximately 175.2 cm (69 in) rearward of the right front axle.

**Post Crash:**

At impact 5, Vehicle 1 began a clockwise rotation of approximately 10 degrees and the right front plane impacted, and pushed down, a 25.4 cm (10 in) dead tree approximately 1.2 m (3.8 ft) south of event 5. There was no residual deformation from this impact, and based on the position of the downed tree, a CDC of 12FRLU1 was assigned using a PDOF of 5 degrees.

Vehicle 1 continued forward .5 m (1.6 ft) and came to final rest facing southeast 92 m (302.0 ft) southeast of the point of departure from the roadway.

**Occupant  
Kinematics:**

The 23 year old male driver of Vehicle 1 (the case occupant), was seated in a bucket seat with folding back rest in an upright seated position. The driver was 173 cm (68 in) in height and weighed 58 kg (127 lb) at the time of the crash. During the on-site vehicle inspection the exact position of the left front seat could not be determined with any degree of accuracy due to intrusion and extrication damage. However, it did appear that the seat had been manually adjusted to a position at, or near, the center adjustment position prior to the crash. The driver was properly restrained by the available three-point, manual lap/shoulder safety restraints .

At the time of, and just prior to this crash, the driver was apparently asleep and his hand positions could not be determined. However, based upon driver injuries, entrapment and residual scene evidence, it would appear that the driver's left foot was on the floor/toe pan and his right foot was on the accelerator pedal.

There appears to have been little or no occupant movement as Vehicle 1 departed the roadway and during the first three impact events.

At impact 4, as the left front plane impacted the 64.3 cm (25.3 in) diameter tree, the restrained driver was projected forward and approximately 5 degrees to the left, loading the three-point lap/shoulder restraints with his chest and abdomen. As he loaded the safety restraints his hips were pushed downward and forward into the left front seat cushion, his knees were projected upward and his head "snapped" forward and downward. Simultaneously, the driver's side airbag deployed as the left "A" pillar, left instrument panel, left floor/toe pan and steering column/wheel began their longitudinal and vertical intrusions.

During the above events, it appears that the driver's head and face made contact with the upper left quadrant of the deploying airbag and was

cushioned to the point that he sustained no facial or head injuries during this impact event. As he loaded the shoulder restraint, it appears that he sustained a laceration of the left shoulder (clavicle area) and contusions of the whole chest area.

As his lower extremities moved forward and upward, his left knee impacted the intruding left instrument panel while his left and right feet were being projected rearward by the intruding floor/toe pan. These movements resulted in an open fracture of the left femur shaft, a laceration of the left thigh and contusions of the lower left leg as his left leg contacted the instrument panel. He also sustained a fracture of the left medial malleolus as his left and right foot became entrapped by the floor/toe pan and the front edge of the left front seat cushion.

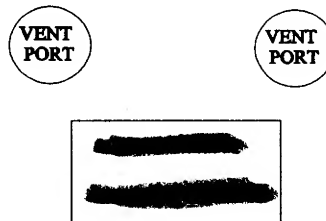
At impact with the 64.3 cm (25.3 in) diameter tree, Vehicle 1 began a counterclockwise rotation, and as the driver "rebounded" rearward from his initial forward movement, he was projected to the right. His movements to the right were significantly increased as the right side plane of Vehicle 1 impacted a 53.8 cm (21.2 in) tree just rearward of the right "B" pillar. At some time during this movement, the driver sustained a laceration of the right shoulder from an unknown source.

During impact 4, the cargo in the cargo space of Vehicle 1 appears to have shifted forward striking the left side of the rear seat folding back rest, causing the left side back rest locking mechanism to disengage. During impact 5, and the subsequent intrusion into the right rear seating position, the lower left pivot rod for the folding rear seat back rest disengaged and the left side of the seat back was projected forward into the left front seat back rest as Vehicle 1 began a clockwise rotation.

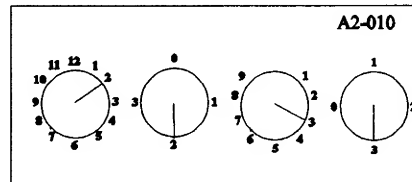
The driver's movement to the left and forward during the clockwise rotation was intensified as the rear seat back rest loaded, and forced forward the left front seat back rest. The rotation and seat back loading caused the driver to be projected into the intruded left "A" pillar and windshield. During the right, then left, movements of the driver and the subsequent interior contacts, he sustained a closed head injury with diffuse axonal injury (shearing), a bilateral contusion of the cerebrum, an open fracture of the left subcondylar mandible, a temporomandibular joint dislocation, left lateral and medial maxillary sinus wall fracture and a 4 cm laceration of the chin that extended into the mouth. In addition, the driver sustained a contusion of the left elbow as it contacted the interior surface of the left front door during this movement.

**Supplemental  
Restraint System:**

This 1994 Dodge Shadow three-door was equipped with a driver's side airbag that deployed as a result of a head-on type crash with a large tree. The deployment event was the fourth impact in a six impact crash. The airbag manufacturer could not be determined, but the following bar code numbers were attached to the back side of the airbag, centered and below the vent ports:



In addition, the bottom flap of the airbag module was marked as follows:



The airbag was not damaged during the crash sequence and did not yield evidence of occupant contact. However, there were blood stains on the lower half of the bag that were most likely the result of post-crash bleeding by the driver.

The airbag measured 60 cm (23.6 in) in diameter in its deflated, post-crash state. The airbag was vented by two vent ports located at the 11:00 and 1:00 o'clock positions on the back side of the bag (away from the driver). The vent ports measured 3.5 cm (1.4 in) in diameter and were approximately 6 cm (2.4 in) below the airbag seam. The airbag contained internal tether straps attached to a 19.2 cm (7.5 in) diameter reinforcement sewn to the center of the bag.

At the time of Dynamic Science's on-site inspection that occurred 5 days post-crash, and within 24 hours of notification, the airbag fabric contained five vertical fold creases and two horizontal fold creases as oriented to the top of the steering wheel.

**Scene Clearance:** The driver of Vehicle 1 (the case occupant) sustained major injuries consisting of a closed head injury with diffuse axonal injury, fractures, dislocations, lacerations and contusions; maximum AIS = AIS-5. The driver's lower extremities were entrapped and extraordinary procedures involving power saws, power spreaders and power chisels were required to extricate him. After removal from the vehicle, he was transported by air to a regional trauma center where he was admitted for treatment. Occupant 2 sustained minor injuries consisting of contusions; maximum AIS = AIS-1. He did not require extrication and was transported by land to a local hospital where he was treated and released. Occupant 3 sustained minor injuries consisting of a fracture and a sprain; maximum AIS = AIS-2. She did not require extrication and was transported by land to a local hospital where she was treated and released. Vehicle 1 sustained major damage in this crash and was towed from the scene.

**Safety Standards:** There were no violations of Federal Motor Vehicle Safety Standards noted during the on-site inspection of Vehicle 1. This violent collision caused the vehicle to be declared a total loss. The hood contacted and fractured the windshield before it rebounded. The driver side seat back hinges also failed.

**DRIVER AND OTHER OCCUPANTS:****VEHICLE 1**

	<b>DRIVER</b>	<b>OCCUPANT 2</b>
<b>Age/Sex:</b>	23 year old/male	17 year old/male
<b>Seated Position:</b>	Left front	Right front
<b>Seat Type:</b>	Bucket with folding back	Bucket with folding back
<b>Height:</b>	173 cm (68 in)	178 cm (70 in)
<b>Weight:</b>	58 kg (127 lb)	68 kg (150 lb)
<b>Occupation:</b>	Unknown	Student
<b>Pre-existing Medical Condition:</b>	None known	None known
<b>Alcohol/Drug Involvement:</b>	Positive for cocaine and Darvon	Unknown - no test
<b>Driving Experience:</b>	6 years	N/A
<b>Body Posture:</b>	Upright seated position	Upright seated position
<b>Hand Position:</b>	Unknown	Unknown
<b>Foot Position:</b>	L. Foot on floor/toe pan, R. foot on accelerator pedal	Unknown
<b>Restraint Usage:</b>	3-point manual lap/shoulder restraints	2-point, automatic, motorized shoulder restraint, 2-point manual lap restraint
<b>Additional Occupants:</b>	2	1

**DRIVER AND OTHER OCCUPANTS (con't):**

**VEHICLE 1**

**OCCUPANT 3**

<b>Age/Sex:</b>	20 year old/female
<b>Seated Position:</b>	Right rear
<b>Seat Type:</b>	Bench with folding back
<b>Height:</b>	168 cm (66 in)
<b>Weight:</b>	57 kg (125 lb)
<b>Occupation:</b>	Student
<b>Pre-existing Medical Condition:</b>	None known
<b>Alcohol/Drug Involvement:</b>	Unknown - not tested
<b>Driving Experience:</b>	N/A
<b>Body Posture:</b>	Unknown - asleep
<b>Hand Position:</b>	Unknown - asleep
<b>Foot Position:</b>	Unknown - asleep
<b>Restraint Usage:</b>	None
<b>Additional Occupants:</b>	None



**INJURIES:****Vehicle 1**

	<b>INJURY</b>	<b>AIS/OIC CODE</b>	<b>ICD-9</b>	<b>SOURCE</b>
<b>DRIVER: (case occupant)</b>	Closed head injury with diffuse axonal injury (shear)	2140628.5,3141202	801.14	Windshield/"A" Pillar
	Contusion, cerebrum (bilateral) NFS	2140620.3,3141202	801.14	Windshield/"A" Pillar
	Fracture, L. Femur shaft (open)	2851814.3,2091203	821.11	L. Inst. panel
	Fracture, L. Subcondylar Mandible (open)	2250616.2,2141102	802.32	Windshield/"A" Pillar
	Dislocation, Temporomandibular joint	2251604.2,2141102	830.0	Windshield/"A" Pillar
	Fracture, L. Lateral and medial wall, maxillary sinus	2250802.2,2141102	802.4	Windshield/"A" Pillar
	Fracture L. medial malleolus	2853412.2,2561101	824.0	Floor/toe pan
	Laceration, chin 4 cm (into mouth)	2290602.1,8141102	873.44	Windshield/"A" Pillar
	Laceration, L. shoulder (clavicle area)	2790602.1,2411100	880.00	Shoulder restraint
	Laceration, R. shoulder	2790602.1,1979700	880.00	Unknown
	Laceration, L. thigh	2890602.1,2091202	890.0	L. Inst. panel
	Contusion, L. elbow	2790402.1,2201100	923.11	Interior, L/F door
	Contusion, Chest (whole area)	2490402.1,0411100	922.1	Shoulder restraint
	Contusion, L. lower leg	2890402.1,2091102	924.4	L. Inst. panel
<b>R/F Occupant:</b>	Contusion, chest	7490402.1,4411100	922.1	Shoulder restraint
	Contusion, R. hip	7590402.1,1411100	924.01	Lap restraint
	Contusion, L. hip	7590402.1,2411100	924.01	Lap restraint
<b>R/R Occupant:</b>	Fracture, L. Wrist	7753202.2,2401100	813.43	R/F seat back
	Sprain, L. Ankle	7850206.1,2491100	845.00	R/F seat, cushion

## FRONT INTRUSIONS

Case Number DSI-94-AB-015**Seat adjusted to:**

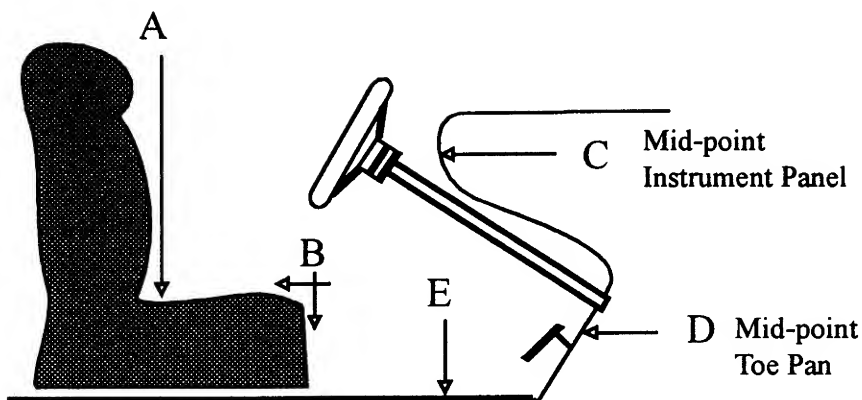
Forward \_\_\_\_\_

Midpoint X (ESTIMATED)

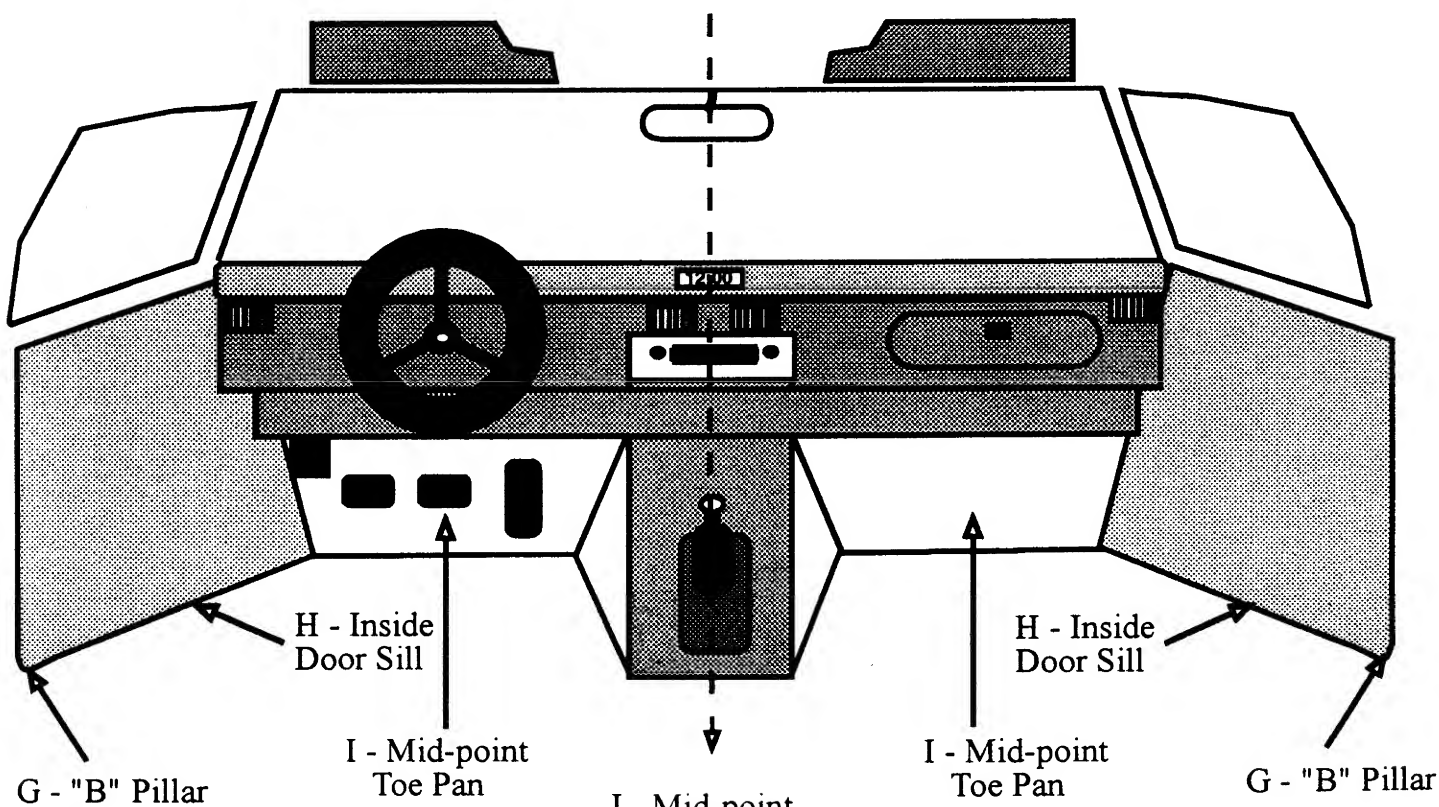
Rearward \_\_\_\_\_

**Seat Type:**

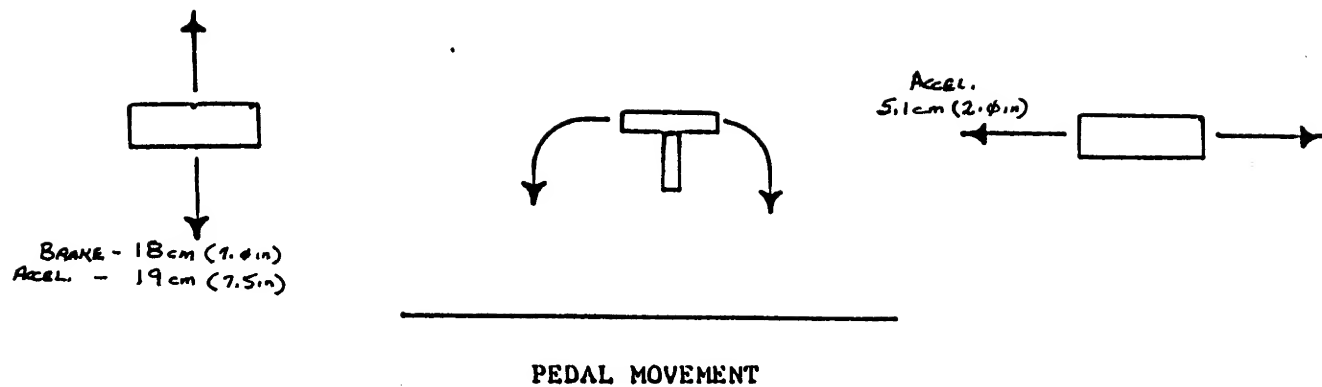
Electric \_\_\_\_\_

Manual X

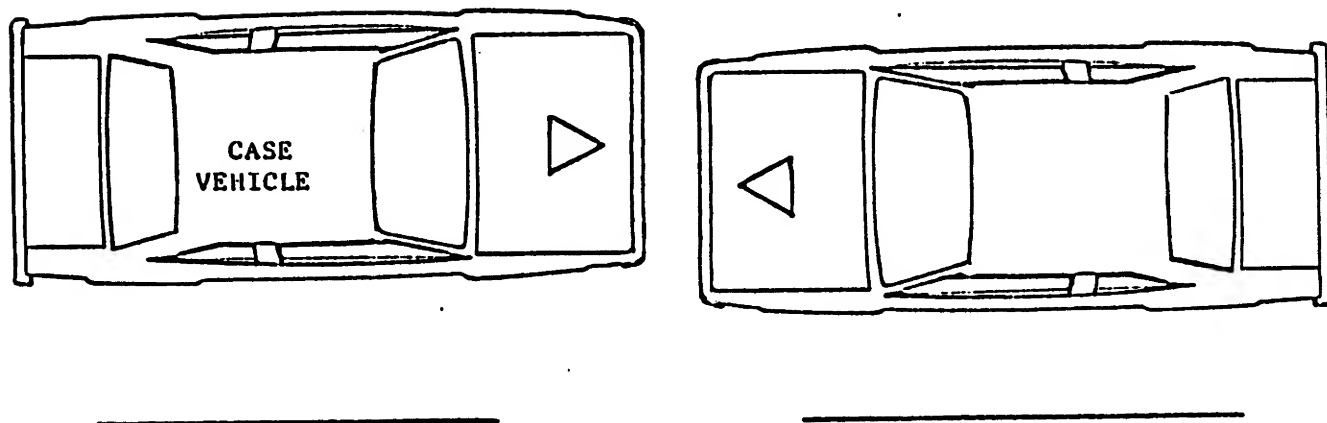
Left Side				EXEMPLAR MEASURES	Right Side			
A-B	51.0	cm	20.1	in	51cm/20.1in	A-B	47.6	cm 18.7 in
B-C	-14.0	cm	-3.9	in	30cm/12.0in	B-C	26.0	cm 10.2 in
B-D	38.0	cm	15.0	in	56cm/22.0in	B-D	60.0	cm 23.6 in
A-B-C	79.0	cm	31.1	in	107cm/42.1in	A-B-C	107.6	cm 42.4 in
C-E	70.0	cm	27.6	in	57cm/22.5in	C-E	46.0	cm 18.1 in
B-E	27.0	cm	10.6	in	28cm/11.0in	B-E	22.0	cm 8.7 in



Left Side				EXEMPLAR MEASURES	Right Side			
G-I	108.0	cm	42.5	in	140cm/55.1in	G-I	140.6	cm 55.4 in
H-J	60.0	cm	23.6	in	66cm/26.0in	H-J	75.0	cm 29.5 in



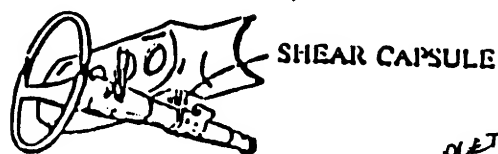
NONE - SINGLE VEHICLE/FIXED OBJECT  
DAMAGE OVERLAP



# STEERING COLUMN WORKING DIAGRAMS

## STEERING COLUMN COLLAPSE

### Steering Column Shear Module Movement



SHEAR CAPSULE

Left —

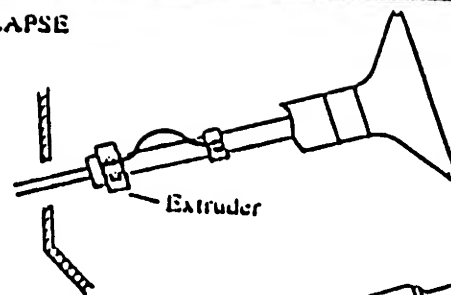


Right —

V = —"

Direction and Magnitude of Steering Column Movement

COMPLETE  
COLLAPSE  
UNABLE TO MEASURE  
DUE TO INTERIOR DAMAGE



Extruder

Extruder

Residual  
Extruder

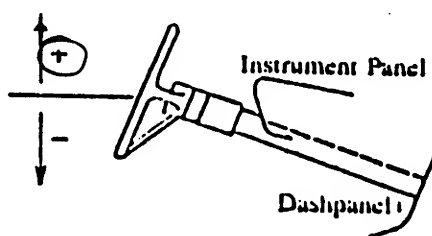
Extruder  
Retainer (Mini Column)  
or Flared  
Tube (Mid Column)

Grooves Indicating  
Column Recovery

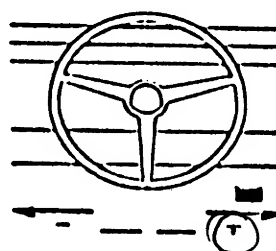
E = —

## STEERING COLUMN MOVEMENT

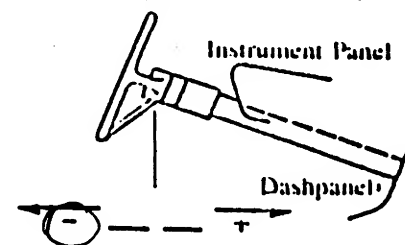
### Vertical Movement



### Lateral Movement



### Longitudinal Movement



	COMPARISON VALUE	—	DAMAGED VALUE	=	MOVEMENT
VERTICAL	ESTIMATED	—	15cm (6in)	=	+15cm (+6in)
LATERAL	ESTIMATED	—	24cm (8in)	=	+24cm (+8in)
LONGITUDINAL	ESTIMATED	—	25cm (10in)	=	-25cm (10in)

## STEERING RIM/SPOKE DEFORMATION

COMPARISON VALUE	—	DAMAGED VALUE	=	DEFORMATION
	—	NO MEASURABLE DEFORMATION	=	
	—		=	

## **Abbreviations Used In Scene And Photographic Documentation**

ft.	Feet
in.	Inches
AIS	Abbreviated Injury Scale
BLF	Begin Left Front
BLR	Begin Left Rear
BRF	Begin Right Front
BRR	Begin Right Rear
CBE	Cab Behind Engine
CCW	Counterclockwise
CDC	Collision Deformation Classification
CG	Center of Gravity
CM	Centimeter
COE	Cab Over Engine
CW	Clockwise
E, EB	East, Eastbound
ELF	End Left Front
ELR	End Left Rear
ERF	End Right Front
ERR	End Right Rear
FRP	Final Rest Position
I	Interstate Highway
IP	Intermediate Point
KG	Kilogram
KPH	Kilometers Per Hour
LF	Left Front
LR	Left Rear
M	Meter
N, NB	North, Northbound
NE	Northeast
NW	Northwest
PDOF	Principal Direction of Force
POI	Point of Impact
R	Radius of Curvature
RF	Right Front
RL	Reference Line
RP	Reference Point
RR	Right Rear
S, SB	South, Southbound
SE	Southeast
SW	Southwest
T	Time or Elapsed Time (in seconds)
U.S.	United States Highway
V1	Vehicle Number 1
W, WB	West, Westbound

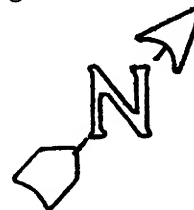
3.9m 3.6m 3.7m .3m  
(12.8ft)(11.9ft)(12 ft) (1 ft)

REFERENCE LINE

20 degree down slope

DYNAMIC SCIENCE  
DSI-94-AB-15  
1cm = 2.4 m  
1 in = 20 ft

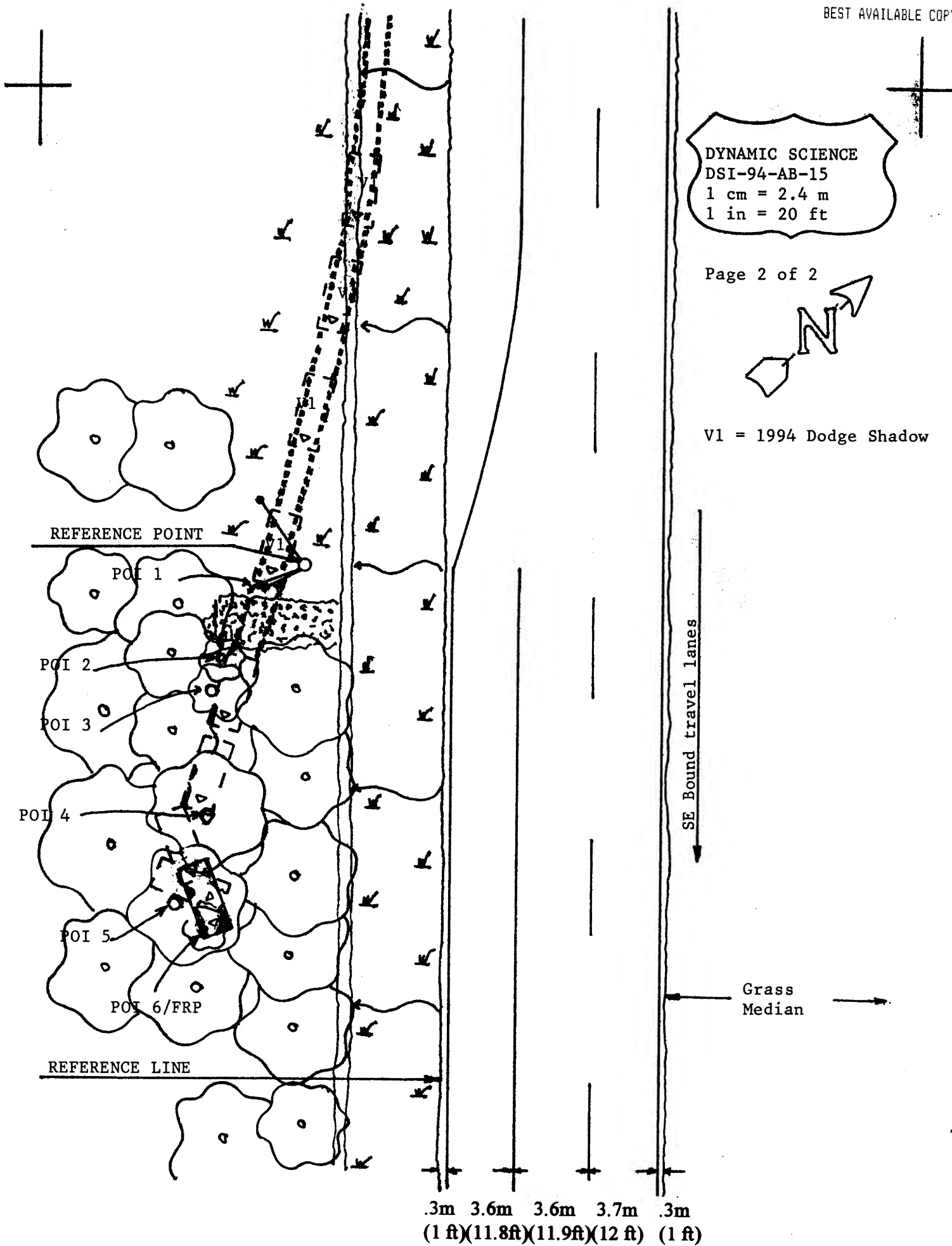
Page 1 of 2



V1 = 1994 Dodge Shadow

Southeast bound travel lanes

Grass  
Median



## COLLISION MEASUREMENTS

Case Number DSI-94-AB-15

Reference Point: Wooden utility pole 7.5 m (24.6 ft) SW of SW road edge

Reference Line: Southwest edge, southeast bound road

DATA POINT	LONGITUDINALS	LATERALS
SW edge of SE bound road	30.5 m (100 ft) NW	0
White line separates shoulder and SE bound travel lane 1	30.5 m (100 ft) NW	3.9 m (12.8 ft) NE
Broken white line separates SE bound travel lanes 1 and 2	30.5 m (100 ft) NW	7.5 m (24.7 ft) NE
Yellow line, NE edge of SE bound travel lane 2	30.5 m (100 ft) NW	11.2 m (36.7 ft) NE
SW edge of grass median	30.5 m (100 ft) NW	11.5 m (37.7 ft) NE
NE edge of grass median	30.5 m (100 ft) NW	16.1 m (52.9 ft) NE
NE edge of NW bound road	30.5 m (100 ft) NW	27.1 m (88.9 ft) NE
R/F wheel leaves road	73.2 m (240.2 ft) NW	0
L/F wheel leaves road	53.5 m (175.4 ft) NW	0
R/F wheel crosses drainage ditch	17.4 m (57.1 ft) NW	5.3 m (17.4 ft) SW
L/F wheel crosses drainage ditch	12.1 m (39.8 ft) NW	5.3 m (17.4 ft) SW
POI 1 - guy wires/front bumper	.9 m (3.1 ft) SE	8.9 m (29.3 ft) SW
POI 2 - small tree/R/F fender	4.5 m (14.7 ft) SE	10.8 m (35.3 ft) SW
POI 3 - medium tree/R/F door	8.6 m (20.1 ft) SE	11.3 m (37.2 ft) SW
POI 4 - large tree/left front	12.6 m (41.4 ft) SE	12.1 m (39.6 ft) SW
POI 5 - large tree/right side	17.1 m (56 ft) SE	13.9 m (45.6 ft) SW
POI 6 - Medium dead tree/right front	18.3 m (60.2 ft) SE	12.8 m (41.9 ft)
FRP	18.8 m (61.8 ft) SE	12.8 m (41.9 ft)



## SLIDE INDEX

Case No. DSI-94-AB-15

SLIDE NO.	VEHICLE NO.	ORIENTATION	SUBJECT MATTER
1	Vehicle 1	NW	Approach path, Vehicle 1
2-12	Vehicle 1	SE	Travel path, Vehicle 1 Slide 2 - R/F wheel departs roadway Slide 3 - L/F wheel departs roadway Slide 4 - R/F wheel crosses ditch Slide 5 - L/F wheel crosses ditch Slide 7 - POI 1, front plane with double guy wires Slide 11 & 12 - POI 4 & 5, L/F and R. side plane
13-14		SE	POI 6 and FRP
15-17	Vehicle 1	NW	Reverse travel path
18-30	Vehicle 1	CCW	Exterior views Slide 28 - Exterior, R/F door and L/F seat back rest damage from rear seat fold down back rest
31-52	Vehicle 1	---	Interior views Slides 40 - L/F door panel and front bumper beam Slide 45 & 46 - R/R intrusion Slide 49 & 51 - L/R seat back rest latch and fold down pivot Slide 52 - R/R seat back rest latch







































































































































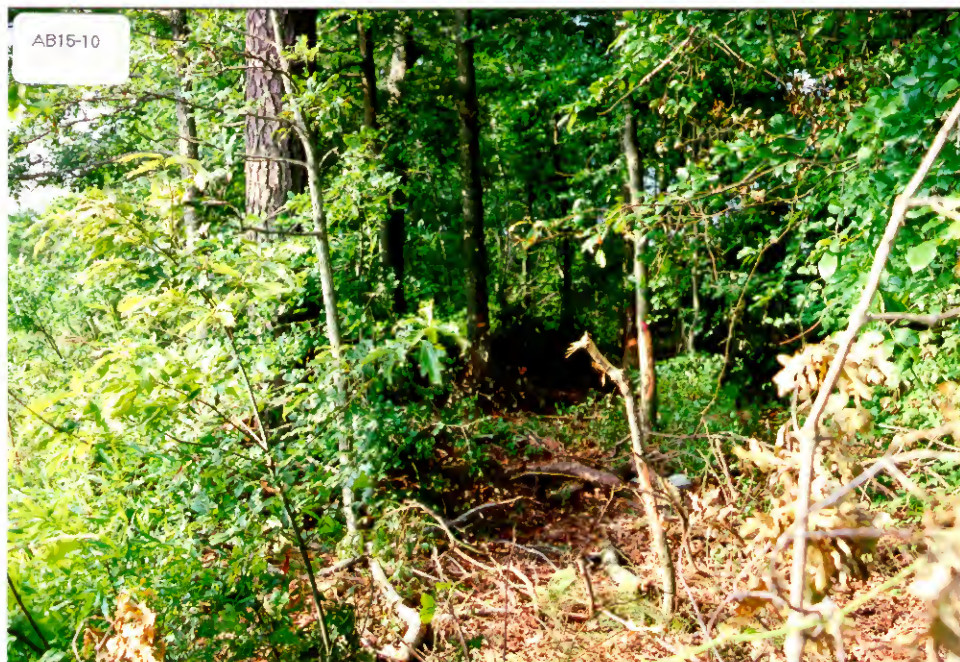




























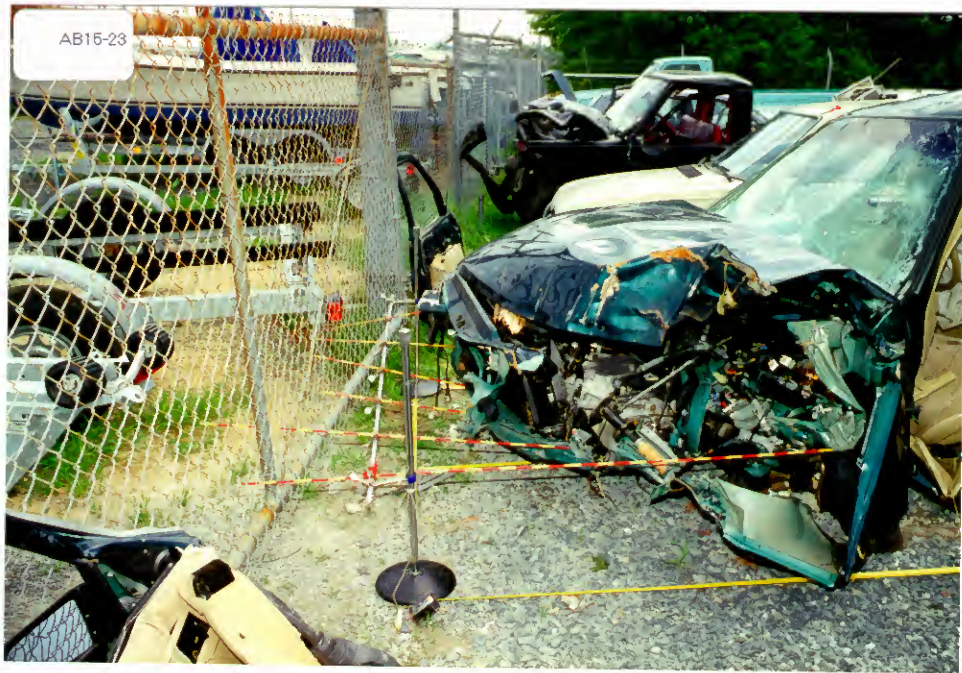


























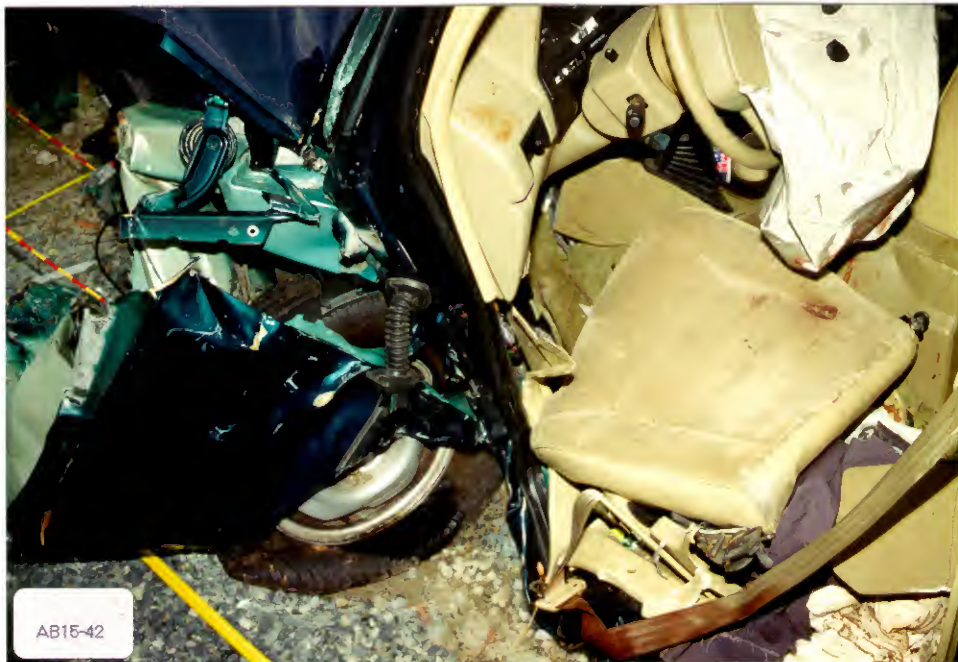
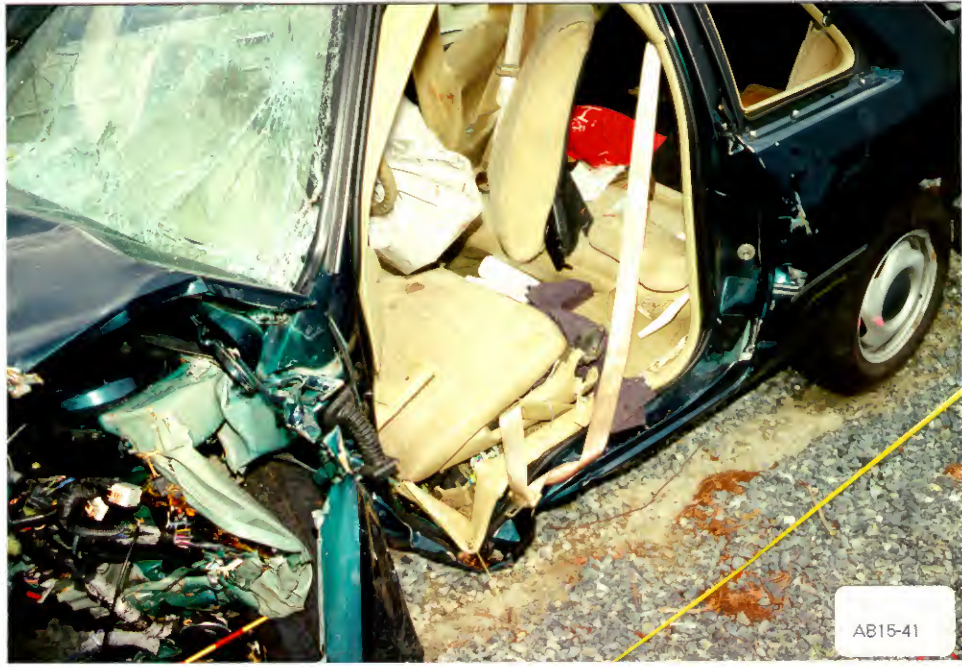




































National Highway Traffic Safety  
Administration

## ACCIDENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

2. Case Number - Stratum

DST-94-AB-015

## IDENTIFICATION

3. Number of General Vehicle  
Forms Submitted0 14. Date of Accident  
(Month,Day,Year)SUMMER / WEEKDAY / 9 4

5. Time of Accident

EARLY MORNING

Code reported military time of accident.

NOTE: Midnight = 2400

Unknown = 9999

## SPECIAL STUDIES INDICATORS

Check (✓) each special study (SS14-SS18 below) that  
has been completed; code 1 for the checked special  
studies and 0 for the special studies not checked.6. 0 SS15 Administrative Use07. 0 SS16 Pedestrian Crash Data Study08. 0 SS17 Impact Fires09. 0 SS18010. 0 SS190

## NUMBER OF EVENTS

11. Number of Recorded Events  
in This Accident0 6Code the number of events which occurred  
in this accident.

## ACCIDENT EVENTS

For each event that occurred in the accident, code the lowest numbered vehicle in the left columns and the other  
involved vehicle or object on the right.Accident Event  
Sequence  
NumberVehicle  
NumberClass Of  
VehicleGeneral  
Area of  
DamageVehicle Number  
or  
Object ContactedClass Of  
VehicleGeneral  
Area of  
Damage12. 0 1 13. 0 1 14. 0 1 15. F 16. 6 8 17. 0 0 18. 019. 0 2 20. 0 1 21. 0 1 22. R 23. 6 8 24. 0 0 25. 026. 0 3 27. 0 1 28. 0 1 29. R 30. 4 2 31. 0 0 32. 033. 0 4 34. 0 1 35. 0 1 36. F 37. 4 2 38. 0 0 39. 040. 0 5 41. 0 1 42. 0 1 43. R 44. 4 2 45. 0 0 46. 0

IF GREATER THAN FIVE EVENTS, CONTINUE CODING ON THE ACCIDENT EVENT SUPPLEMENT

## National Accident Sampling System-Crashworthiness Data System: Accident Form

## ACCIDENT EVENTS SUPPLEMENT

1. Primary Sampling Unit Number \_\_\_\_\_

2. Case Number—Stratum DSI-94-48-015

Accident Event Sequence Number	Vehicle Number	Class Of Vehicle	General Area of Damage	Vehicle Number or Object Contacted	Class Of Vehicle	General Area of Damage
47. <u>0 6</u>	48. <u>0 1</u>	49. <u>0 1</u>	50. <u>F</u>	51. <u>4 2</u>	52. <u>0 0</u>	53. <u>0</u>
54. <u>0 7</u>	55. _____	56. _____	57. _____	58. _____	59. _____	60. _____
61. <u>0 8</u>	62. _____	63. _____	64. _____	65. _____	66. _____	67. _____
68. <u>0 9</u>	69. _____	70. _____	71. _____	72. _____	73. _____	74. _____
75. <u>1 0</u>	76. _____	77. _____	78. _____	79. _____	80. _____	81. _____
82. <u>1 1</u>	83. _____	84. _____	85. _____	86. _____	87. _____	88. _____
89. <u>1 2</u>	90. _____	91. _____	92. _____	93. _____	94. _____	95. _____
96. <u>1 3</u>	97. _____	98. _____	99. _____	100. _____	101. _____	102. _____
103. <u>1 4</u>	104. _____	105. _____	106. _____	107. _____	108. _____	109. _____
110. <u>1 5</u>	111. _____	112. _____	113. _____	114. _____	115. _____	116. _____
117. <u>1 6</u>	118. _____	119. _____	120. _____	121. _____	122. _____	123. _____
124. <u>1 7</u>	125. _____	126. _____	127. _____	128. _____	129. _____	130. _____
131. <u>1 8</u>	132. _____	133. _____	134. _____	135. _____	136. _____	137. _____
138. <u>1 9</u>	139. _____	140. _____	141. _____	142. _____	143. _____	144. _____
145. <u>2 0</u>	146. _____	147. _____	148. _____	149. _____	150. _____	151. _____

## CODES FOR CLASS OF VEHICLE

- (00) Not a motor vehicle
- (01) Subcompact/mini (wheelbase < 254 cm)
- (02) Compact (wheelbase ≥ 254 but < 265 cm)
- (03) Intermediate (wheelbase ≥ 265 but < 278 cm)
- (04) Full size (wheelbase ≥ 278 but < 291 cm)
- (05) Largest (wheelbase ≥ 291 cm)
- (09) Unknown passenger car size
- (11) Compact utility vehicle
- (12) Large utility vehicle (≤ 4,500 kgs GVWR)
- (13) Passenger van (≤ 4,500 kgs GVWR)
- (14) Other van (≤ 4,500 kgs GVWR)
- (15) Pickup truck (≤ 4,500 kgs GVWR)
- (18) Other truck (≤ 4,500 kgs GVWR)
- (19) Unknown light truck type
- (20) School bus
- (21) Other bus
- (22) Truck (> 4,500 kgs GVWR)
- (23) Tractor without trailer
- (24) Tractor-trailer(s)
- (25) Motored cycle
- (28) Other vehicle
- (99) Unknown

## CODES FOR GENERAL AREA OF DAMAGE (GAD)

### CDS APPLICABLE AND OTHER VEHICLES

- (O) Not a motor vehicle
- (N) Noncollision
- (F) Front
- (R) Right side
- (L) Left side
- (B) Back
- (T) Top
- (U) Undercarriage
- (9) Unknown

### TDC APPLICABLE VEHICLES

- (O) Not a motor vehicle
- (N) Noncollision
- (F) Front
- (R) Right side
- (L) Left side
- (B) Back of unit with cargo area (rear of trailer or straight truck)
- (D) Back (rear of tractor)
- (C) Rear of cab
- (V) Front of cargo area
- (T) Top
- (U) Undercarriage
- (9) Unknown

## CODES FOR VEHICLE NUMBER OR OBJECT CONTACTED

### (01-30) — Vehicle Number

#### Noncollision

- (31) Overturn — rollover
- (32) Fire or explosion
- (33) Jackknife
- (34) Other intraunit damage (specify): \_\_\_\_\_

- (35) Noncollision injury
- (38) Other noncollision (specify): \_\_\_\_\_

- (39) Noncollision — details unknown

#### Collision With Fixed Object

- (41) Tree (≤ 10 cm in diameter)
- (42) Tree (> 10 cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment

- (45) Breakaway pole or post (any diameter)

#### Nonbreakaway Pole or Post

- (50) Pole or post (≤ 10 cm in diameter)
- (51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
- (52) Pole or post (> 30 cm in diameter)
- (53) Pole or post (diameter unknown)
- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail) (specify): \_\_\_\_\_

- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): \_\_\_\_\_
- METAL GUY WIRE
- (69) Unknown fixed object

#### Collision with Nonfixed Object

- (71) Motor vehicle not in-transport
- (72) Pedestrian
- (73) Cyclist or cycle
- (74) Other nonmotorist or conveyance
- (75) Vehicle occupant
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (79) Object fell from vehicle in-transport
- (88) Other nonfixed object (specify): \_\_\_\_\_
- (89) Unknown nonfixed object
- (98) Other event (specify): \_\_\_\_\_
- (99) Unknown event or object





## GENERAL VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum DSI-94-AB-0153. Vehicle Number 01

## VEHICLE IDENTIFICATION

4. Vehicle Model Year 94  
Code the last two digits of the model year  
(99) Unknown5. Vehicle Make (specify): 07  
DODGE  
Applicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(99) Unknown6. Vehicle Model (specify): 017  
SHADOW  
Applicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(99) Unknown7. Body Type 03  
Note: Applicable codes may be found on  
the back of this page.

8. Vehicle Identification Number

1 8 3 A P 2 4 K 0 R N  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17Left justify; Slash zeros and letter Z (0 and Z)  
No VIN—Code all zeros  
Unknown—Code all nines

## OFFICIAL RECORDS

9. Police Reported Vehicle Disposition 1  
(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown10. Police Reported Travel Speed 999Code to the nearest kph (NOTE: 000 means  
less than 0.5 kph)  
(160) 159.5 kph and above  
(999) Unknown     mph X 1.6093 =      kph11. Police Reported Alcohol Presence 0  
(0) No alcohol present  
(1) Yes (alcohol present)  
(7) Not reported  
(8) No driver present  
(9) UnknownNote: See variables 37 through 55  
(Page 4) for information on Other Drugs12. Alcohol Test Result For Driver 96  
Code actual value (decimal implied  
before first digit—0.xx)  
(95) Test refused  
(96) None given  
(97) AC test performed, results unknown  
(98) No driver present  
(99) UnknownSource: PAR

## ACCIDENT RELATED

13. Speed Limit 089  
(000) No statutory limit  
Code posted or statutory speed limit  
in kph  
(999) Unknown55 mph X 1.6093 = 089 kph14. Attempted Avoidance Maneuver 01  
(01) No avoidance actions  
(02) Braking (no lockup)  
(03) Braking (lockup)  
(04) Braking (lockup unknown)  
(05) Releasing brakes  
(06) Steering left  
(07) Steering right  
(08) Braking and steering left  
(09) Braking and steering right  
(10) Accelerating  
(11) Accelerating and steering left  
(12) Accelerating and steering right  
(97) No driver present  
(98) Other action (specify):  
(99) Unknown15. Accident Type 01  
Applicable codes may be found on the  
back of page two of this field form  
(00) No impact  
Code the number of the diagram that  
best describes the accident circumstance  
(98) Other accident type (specify):  
(99) Unknown

\*\*\*\* SKIP TO VARIABLE GV37 IF GV07 DOES NOT EQUAL 01-49 \*\*\*\*

# CODES FOR BODY TYPE

## CDS APPLICABLE VEHICLES

### Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify): \_\_\_\_\_
- (09) Unknown automobile type

### Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine - more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

### Utility Vehicles ( $\leq 4,500$ kgs GVWR)

- (14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Landcruiser, Rover, Scout)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

### Van Based Light Trucks ( $\leq 4,500$ kgs GVWR)

- (20) Minivan (Chrysler Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Dodge/Plymouth Vista, Aerostar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van ( $\leq 4,500$  kgs GVWR)
- (23) Van based motorhome ( $\leq 4,500$  kgs GVWR)
- (24) Van based school bus ( $\leq 4,500$  kgs GVWR)
- (25) Van based other bus ( $\leq 4,500$  kgs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify): \_\_\_\_\_
- (29) Unknown van type

### Light Conventional Trucks (Pickup style cab, $\leq 4,500$ kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500.)

- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

### Other Light Trucks ( $\leq 4,500$ kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

## OTHER VEHICLES

### Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): \_\_\_\_\_
- (59) Unknown bus type

### Medium/Heavy Trucks ( $> 4,500$ kgs GVWR)

- (60) Step van ( $> 4,500$  kgs GVWR)
- (61) Single unit straight truck ( $4,500$  kgs  $<$  GVWR  $\leq 8,850$  kgs)
- (62) Single unit straight truck ( $8,850$  kgs  $<$  GVWR  $\leq 12,000$  kgs)
- (63) Single unit straight truck ( $> 12,000$  kgs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

### Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify): \_\_\_\_\_
- (89) Unknown motored cycle type

### Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

## OCCUPANT RELATED

16. Driver Presence in Vehicle 1  
 (0) Driver not present  
 (1) Driver present  
 (9) Unknown
17. Number of Occupants This Vehicle 3  
 (00-96) Code actual number of occupants for this vehicle  
 (97) 97 or more  
 (99) Unknown
18. Number of Occupant Forms Submitted 3

## VEHICLE WEIGHT ITEMS

19. Vehicle Curb Weight 1, 1 8 0  
 Code weight to nearest 10 kilograms.  
 (045) Less than 450 kilograms  
 (610) 6,100 kilograms or more  
 (999) Unknown  
1, 1 8 0 lbs X .4536 = 1, 1 8 3 kgs  
 Source: [REDACTED]
20. Vehicle Cargo Weight 0, 0 2 0  
 Code weight to nearest 10 kilograms.  
 (000) Less than 5 kilograms  
 (450) 4,500 kilograms or more  
 (999) Unknown  
0, 0 2 0 lbs X .4536 = 0, 0 2 3 kgs

## RECONSTRUCTION DATA

21. Towed Trailing Unit 0  
 (0) No towed unit  
 (1) Yes—towed trailing unit  
 (9) Unknown
22. Documentation of Trajectory Data for This Vehicle 1  
 (0) No  
 (1) Yes
23. Post Collision Condition of Tree or Pole (For Highest Delta V) 1  
 (0) Not collision (for highest delta V) with tree or pole  
 (1) Not damaged  
 (2) Cracked/sheared  
 (3) Tilted < 45 degrees  
 (4) Tilted ≥ 45 degrees  
 (5) Uprooted tree  
 (6) Separated pole from base  
 (7) Pole replaced  
 (8) Other (specify):  
 (9) Unknown

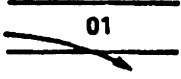
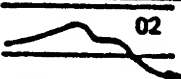
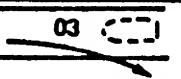


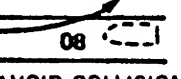
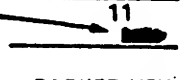

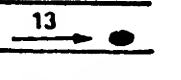
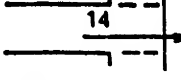
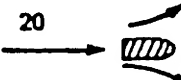
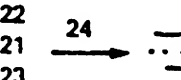
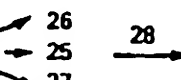
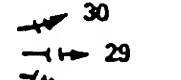

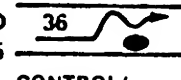
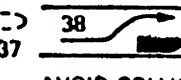
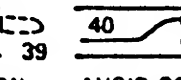
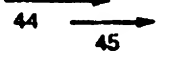





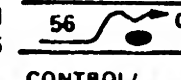
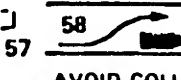
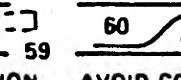



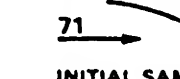
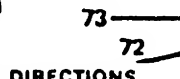

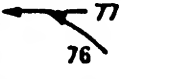
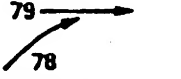
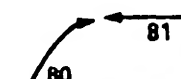
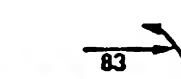
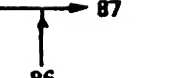
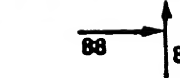
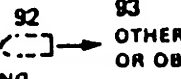

24. Rollover 0  
 (0) No rollover (no overturning)  
*Rollover (primarily about the longitudinal axis)*  
 (1) Rollover, 1 quarter turn only  
 (2) Rollover, 2 quarter turns  
 (3) Rollover, 3 quarter turns  
 (4) Rollover, 4 or more quarter turns (specify):  
 (5) Rollover--end-over-end (i.e., primarily about the lateral axis)  
 (9) Rollover (overturn), details unknown

## OVERRIDE/UNDERRIDE (THIS VEHICLE)

25. Front Override/Underride (this Vehicle) 0
26. Rear Override/Underride (this Vehicle) 0  
 (0) No override/underride, or not an end-to-end impact  
*Override (see specific CDC)*  
 (1) 1st CDC  
 (2) 2nd CDC  
 (3) Other not automated CDC (specify):  
*Underride (see specific CDC)*  
 (4) 1st CDC  
 (5) 2nd CDC  
 (6) Other not automated CDC (specify):  
 (7) Medium/heavy truck or bus override  
 (9) Unknown

## HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

- Values: (000)-(359) Code actual value  
 (997) Noncollision  
 (998) Impact with object  
 (999) Unknown
27. Heading Angle For This Vehicle 9 9 8
28. Heading Angle For Other Vehicle 9 9 8

Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I. Single Driver	A. Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN
	B. Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C. Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER 16 SPECIFICS UNKNOWN
II. Same Trafficway Same Direction	D. Rear-End	 20 STOPPED 21, 22, 23	 22 SLOWER 24, 25, 26, 27	 24 DECEL. 28, 29, 30, 31	 26 AVOID COLLISION WITH VEH.	(EACH • 32) SPECIFICS OTHER (EACH • 33) SPECIFICS UNKNOWN
	E. Forward Impact	 34 CONTROL/ TRACTION LOSS	 36 CONTROL/ TRACTION LOSS	 38 AVOID COLLISION WITH VEH.	 40 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER (EACH • 43) SPECIFICS UNKNOWN
	F. Sideswipe Angle	 44 SIDESWIPE	 45 SIDESWIPE	 46 SIDESWIPE	(EACH • 48) SPECIFICS OTHER	(EACH • 49) SPECIFICS UNKNOWN
III. Same Trafficway Opposite Direction	G. Head-On	 50 LATERAL MOVE	 51 HEAD-ON	(EACH • 52) SPECIFICS OTHER	(EACH • 53) SPECIFICS UNKNOWN	
	H. Forward Impact	 54 CONTROL/ TRACTION LOSS	 56 CONTROL/ TRACTION LOSS	 58 AVOID COLLISION WITH VEH.	 60 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER (EACH • 63) SPECIFICS UNKNOWN
	I. Sideswipe Angle	 64 LATERAL MOVE	 65 SIDESWIPE	(EACH • 66) SPECIFICS OTHER	(EACH • 67) SPECIFICS UNKNOWN	
IV. Change Trafficway Vehicle Turning	J. Turn Across Path	 68 INITIAL OPPOSITE DIRECTIONS	 69 INITIAL SAME DIRECTIONS	 70 TURN ACROSS PATH	 71 TURN ACROSS PATH	(EACH • 74) SPECIFICS OTHER (EACH • 75) SPECIFICS UNKNOWN
	K. Turn Into Path	 76 TURN INTO SAME DIRECTION	 77 TURN INTO OPPOSITE DIRECTIONS	 78 TURN INTO SAME DIRECTION	 79 TURN INTO OPPOSITE DIRECTIONS	(EACH • 84) SPECIFICS OTHER (EACH • 85) SPECIFICS UNKNOWN
V. Intersecting Paths (Vehicle Damage)	L. Straight Paths	 86 STRAIGHT PATHS	 87 STRAIGHT PATHS	(EACH • 90) SPECIFICS OTHER	(EACH • 91) SPECIFICS UNKNOWN	
VI. Miscellaneous	M. Backing Etc.	 92 BACKING VEH.	 93 OTHER VEH. OR OBJECT	98 Other Accident Type 99 Unknown Accident Type 00 No Impact		



## National Accident Sampling System-Crashworthiness Data System: General Vehicle Form

Page 3

29. Basis for Total Delta V (highest) 1*Delta V Calculated*

- (1) CRASH program—damage only routine
- (2) CRASH program—damage and trajectory routine
- (3) Missing vehicle algorithm

*Delta V Not Calculated*

- (4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.
- (5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction technique, regardless of adequacy of damage data.
- (6) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

32. Lateral Component of Delta V <sup>⊕</sup> - 0 0 3 3 Highest  
 (2.0 mph) Nearest kph (highest) (+0.2 mph)  
 Nearest kph (secondary)

(NOTE: 000 means greater than  
 -0.5 kph and less than +0.5 kph)  
 (±160) ±159.5 kph and above  
 (999) Unknown

33. Energy Absorption 0 8 8 8 0 0  
 (65,540 ft/lbs) Nearest 100 joules (highest)  
 (65,474.9 ft/lbs) Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)  
 (9997) 999,650 joules or more  
 (9999) Unknown

## COMPUTER GENERATED DELTA V

30. Total Delta V

37.0 Nearest kph (highest) Highest  
 (23.0 mph) 0 3 7  
 Nearest kph (secondary) (0.23 mph)

(NOTE: 000 means less than  
 0.5 kph)  
 (160) 159.5 kph and above  
 (999) Unknown

31. Longitudinal Component of  
Delta V

-36.8 Nearest kph (highest) <sup>+</sup>  
 (-22.9 mph) 0 3 7  
 Nearest kph (secondary) (-0.23 mph)

(NOTE: 000 means greater than  
 -0.5 kph and less than +0.5 kph)  
 (±160) ±159.5 kph and above  
 (999) Unknown

34. Confidence In Reconstruction Program  
Results (For Highest Delta V)

- (0) No reconstruction 4
- (1) Collision fits model — results appear reasonable
- (2) Collision fits model — results appear high
- (3) Collision fits model — results appear low
- (4) Borderline reconstruction — results appear reasonable

35. Type of Vehicle Inspection 1

- (0) No inspection
- (1) Complete inspection
- (2) Partial inspection (specify):

36. Is this an AOPS Vehicle? 1

- (0) No
- (1) Yes - researcher determined
- (2) VIN determined air bag system
- (3) VIN determined automatic (passive) belts
- (4) VIN determined air bag and automatic (passive) belts

IS OLDMISS APPLICABLE FOR THIS VEHICLE? [ ] YES [X] NO

IF YES: IS A COMPLETED OLDMISS PROGRAM SUMMARY INCLUDED? [ ] YES [ ] NO

37. Police Reported Other Drug Presence 7

- (0) No other drug(s) present  
 (1) Yes [other drug(s) present]  
 (7) Not reported  
 (8) No driver present  
 (9) Unknown

38. Police Reported Drug Evaluation Classification (DEC) Test For Driver φ

- (0) No DEC process available or given  
 (1) DEC process given, results known  
 (2) DEC process given, results unknown  
 (3) DEC process available, unknown if given  
 (8) No driver present

39. Other Drug Specimen Test Type For Driver 1

- (0) No specimen test given  
 (1) Blood test  
 (2) Urine test  
 (3) Other specimen tests (specify):

- (7) Unspecified specimen test  
 (8) No driver present  
 (9) Unknown if specimen test given

### DRUG EVALUATION CLASSIFICATION

#### OTHER DRUGS TEST RESULTS FOR DRIVER

	DEC Test Results	Specimen Test Results
Narcotic Drug	40. <u>φ</u>	41. <u>1</u>
Depressant Drug	42. <u>φ</u>	43. <u>1</u>
Stimulant Drug	44. <u>φ</u>	45. <u>2</u>
Hallucinogen Drug	46. <u>φ</u>	47. <u>1</u>
Cannabinoid Drug	48. <u>φ</u>	49. <u>1</u>
Phencyclidine (PCP)	50. <u>φ</u>	51. <u>1</u>
Inhalant Drug	52. <u>φ</u>	53. <u>1</u>
Other Drug (Excluding Nicotine, Aspirin, Alcohol, Drugs Administered Post-Crash)	54. <u>φ</u>	55. <u>2</u>

## Codes For DEC Test Results

- (0) No DEC test given  
 (1) Passed DEC test  
 (2) Failed DEC test  
 (3) DEC test given—results unknown  
 (8) No driver present  
 (9) Unknown if DEC test given

## Codes for Specimen Test Results

- (0) No specimen test given  
 (1) Drug not found in specimen  
 (2) Drug found in specimen  
 (7) Specimen test given, results unknown or not obtained  
 (8) No driver present  
 (9) Unknown if specimen test given

## CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

- (00) No rollover
- (01-30) — Vehicle Number

### Noncollision

- (31) Turn-over — fall-over
- (33) Jackknife

### Collision With Fixed Object

- (41) Tree ( $\leq 10$  cm in diameter)
- (42) Tree ( $> 10$  cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment

- (45) Breakaway pole or post (any diameter)

### Nonbreakaway Pole or Post

- (50) Pole or post ( $\leq 10$  cm in diameter)
- (51) Pole or post ( $> 10$  cm but  $\leq 30$  cm in diameter)
- (52) Pole or post ( $> 30$  cm in diameter)
- (53) Pole or post (diameter unknown)

- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail)  
(specify): \_\_\_\_\_

- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): \_\_\_\_\_

- (69) Unknown fixed object

### Collision with Nonfixed Object

- (71) Motor vehicle not in-transport
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (79) Object fell from vehicle in-transport
- (88) Other nonfixed object (specify): \_\_\_\_\_

- (89) Unknown nonfixed object

- (98) Other event (specify): \_\_\_\_\_

- (99) Unknown event or object

## OTHER DATA

56. Driver's Zip Code                     

- (00000) Driver not present  
 (00001) Driver not a resident of U.S. or territories  
                     Code actual 5-digit zip code  
 (99999) Unknown

57. Driver's Race/Ethnic Origin   1  

- (0) Driver not present  
 (1) White (non-Hispanic)  
 (2) Black (non-Hispanic)  
 (3) White (Hispanic)  
 (4) Black (Hispanic)  
 (5) American Indian, Eskimo or Aleut  
 (6) Asian or Pacific Islander  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

58. Vehicle Special Use (This Trip)   φ  

- (0) No special use  
 (1) Taxi  
 (2) Vehicle used as school bus  
 (3) Vehicle used as other bus  
 (4) Military  
 (5) Police  
 (6) Ambulance  
 (7) Fire truck or car  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

## ROLLOVER DATA

If GV07 (Body Type) ≠ 1-49, leave GV59-GV63 blank.  
 If GV24 (Rollover) = 0, then GV59-GV63 must equal 0.  
 If GV24 = 9, then GV59-GV63 must equal 9.

59. Rollover Initiation Type   φ  

- (0) No rollover  
 (1) Trip-over  
 (2) Flip-over  
 (3) Turn-over  
 (4) Climb-over  
 (5) Fall-over  
 (6) Bounce-over  
 (7) Collision with another vehicle  
 (8) Other rollover initiation type specify): \_\_\_\_\_  
 (9) Unknown rollover initiation type

60. Location of Rollover Initiation   φ  

- (0) No rollover  
 (1) On roadway  
 (2) On shoulder—paved  
 (3) On shoulder—unpaved  
 (4) On roadside or divided trafficway median  
 (9) Unknown

61. Rollover Initiation Object Contacted   φ  φ  62. Location on Vehicle Where Initial Principal Tripping Force Is Applied   φ  

- (0) No rollover  
 (1) Wheels/tires  
 (2) Side plane  
 (3) End plane  
 (4) Undercarriage  
 (5) Other location on vehicle (specify): \_\_\_\_\_  
 (8) Non-contact rollover forces (specify): \_\_\_\_\_  
 (9) Unknown

63. Direction of Initial Roll   φ  

- (0) No rollover  
 (1) Roll right - primarily about the longitudinal axis  
 (2) Roll left - primarily about the longitudinal axis  
 (5) End-over-end (i.e., primarily about the lateral axis)  
 (9) Unknown roll direction

## PRECRASH DATA

64. Pre-Event Movement (Prior to Recognition of Critical Event)   φ  1  

- (01) Going straight  
 (02) Slowing or stopping in traffic lane  
 (03) Starting in traffic lane  
 (04) Stopped in traffic lane  
 (05) Passing or overtaking another vehicle  
 (06) Disabled or parked in travel lane  
 (07) Leaving a parking position  
 (08) Entering a parking position  
 (09) Turning right  
 (10) Turning left  
 (11) Making a U-turn  
 (12) Backing up (other than for parking position)  
 (13) Negotiating a curve  
 (14) Changing lanes  
 (15) Merging  
 (16) Successful avoidance maneuver to a previous critical event  
 (97) Other (specify): \_\_\_\_\_  
 (98) No driver present  
 (99) Unknown



## PRECRASH DATA (Continued)

65. Critical Precrash Event 1 3*This Vehicle Loss of Control Due To:*

- (01) Blow out or flat tire
- (02) Stalled engine
- (03) Disabling vehicle failure (e.g., wheel fell off) (specify): \_\_\_\_\_
- (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): \_\_\_\_\_
- (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): \_\_\_\_\_
- (06) Traveling too fast for conditions
- (08) Other cause of control loss (specify): \_\_\_\_\_
- (09) Unknown cause of control loss

*This Vehicle Traveling*

- (10) Over the lane line on left side of travel lane
- (11) Over the lane line on right side of travel lane
- (12) Off the edge of the road on the left side
- (13) Off the edge of the road on the right side
- (14) End departure
- (15) Turning left at intersection
- (16) Turning right at intersection
- (17) Crossing over (passing through) intersection
- (19) Unknown travel direction

*Other Motor Vehicle In Lane*

- (50) Stopped
- (51) Traveling in same direction with lower speed (i.e., lower steady speed or decelerating)
- (52) Traveling in same direction with higher speed
- (53) Traveling in opposite direction
- (54) In crossover
- (55) Backing
- (59) Unknown travel direction of other motor vehicle in lane

*Other Motor Vehicle Encroaching Into Lane*

- (60) From adjacent lane (same direction)—over left lane line
- (61) From adjacent lane (same direction)—over right lane line
- (62) From opposite direction—over left lane line
- (63) From opposite direction—over right lane line
- (64) From parking lane
- (65) From crossing street, turning into same direction
- (66) From crossing street, across path
- (67) From crossing street, turning into opposite direction
- (68) From crossing street, intended path not known
- (70) From driveway, turning into same direction
- (71) From driveway, across path
- (72) From driveway, turning into opposite direction
- (73) From driveway, intended path not known
- (74) From entrance to limited access highway
- (78) Encroachment by other vehicle—details unknown

*Pedestrian or Pedalcyclist, or Other Nonmotorist*

- (80) Pedestrian in roadway
- (81) Pedestrian approaching roadway
- (82) Pedestrian—unknown location
- (83) Pedalcyclist or other nonmotorist in roadway (specify): \_\_\_\_\_
- (84) Pedalcyclist or other nonmotorist approaching roadway (specify): \_\_\_\_\_
- (85) Pedalcyclist or other nonmotorist—unknown location (specify): \_\_\_\_\_

*Object or Animal*

- (87) Animal in roadway
- (88) Animal approaching roadway
- (89) Animal—unknown location
- (90) Object in roadway
- (91) Object approaching roadway
- (92) Object—unknown location
- (98) Other critical precrash event (specify): \_\_\_\_\_
- (99) Unknown

For Corrective Actions Attempted see variable GV14  
(Attempted Avoidance Manuever)

66. Precrash Stability After Avoidance Maneuver φ

- (0) No avoidance maneuver
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify): \_\_\_\_\_
- (8) No driver present
- (9) Precrash stability unknown

67. Precrash Directional Consequences of Avoidance Maneuver (Corrective Action) φ

- (0) No avoidance maneuver
- (1) Vehicle stayed in travel lane where avoidance maneuver was initiated
- (2) Vehicle stayed on roadway but left travel lane where avoidance maneuver was initiated
- (3) Vehicle stayed on roadway, not known if left travel lane where avoidance maneuver was initiated
- (4) Vehicle departed roadway
- (5) Avoidance maneuver initiated off roadway
- (8) No driver present
- (9) Directional consequences unknown

\*\*\* IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), \*\*\*  
DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

\*\*\* IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE \*\*\*  
THE EXTERIOR VEHICLE, INTERIOR VEHICLE,  
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.

National Highway Traffic Safety  
Administration**EXTERIOR VEHICLE FORM** NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

3. Vehicle Number

2. Case Number - Stratum DSI-94-AB-01501**VEHICLE IDENTIFICATION**VIN 1 B 3 A P 2 4 K 0 R N X X X X X XModel Year 94Vehicle Make (specify): DODGEVehicle Model (specify): SHADOW 3-DOOR**LOCATOR**

Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L
<u>01</u>	BEGINS APPROXIMATELY 91.2cm (35.9in) LEFT OF R/F BUMPER CORNER	NOT MEASURED - CDC ONLY
<u>02</u>	BEGINS APPROXIMATELY 95cm (37.4in) FORWARD OF R/F AXLE	NOT MEASURED - CDC ONLY
<u>03</u>	BEGINS APPROXIMATELY 84cm (31.5in) REARWARD OF R/F AXLE	NOT MEASURED - CDC ONLY

**CRUSH PROFILE IN CENTIMETERS**

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure and document on the vehicle diagram the location of maximum crush.

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

Specific Impact Number	Plane of Impact C-Measurements	Direct Damage		Field L	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	±D
		Width (CDC)	Max Crush								
<u>04</u>	LOWER RADIATOR SUPPORT	<u>58.7</u>	<u>131.5</u>	<u>146.5</u>	<u>131.5</u>	<u>52.1</u>	<u>26.5</u>	<u>21.3</u>	<u>17.2</u>	<u>16.3</u>	<u>-46.9</u>
	- BUMPER		<u>2.0</u>		<u>2.0</u>	<u>1.0</u>	<u>0</u>	<u>0</u>	<u>1.0</u>	<u>2.0</u>	
	- FREE SPACE		<u>12.7</u>		<u>12.7</u>	<u>12.7</u>	<u>12.7</u>	<u>12.7</u>	<u>12.7</u>	<u>12.7</u>	
	- BUMPER		<u>10.2</u>		<u>10.2</u>	<u>10.2</u>	<u>10.2</u>	<u>10.2</u>	<u>10.2</u>	<u>10.2</u>	
	- RADIATOR FREE SPACE		<u>106.6</u>		<u>106.6</u>	<u>28.2</u>	<u>3.6</u>	<u>-1.6</u>	<u>-6.7</u>	<u>-8.6</u>	
	TOTAL		<u>20.0</u>		<u>20.0</u>	<u>20.0</u>	<u>20.0</u>	<u>20.0</u>	<u>20.0</u>	<u>20.0</u>	
	+ STRIKE LINE ADJUST.		<u>126.6</u>		<u>126.6</u>	<u>48.2</u>	<u>23.6</u>	<u>18.4</u>	<u>13.3</u>	<u>11.4</u>	
	RESULTANT		<u>0.0</u>								
				U.S. EQUIVALENTS							
<u>04</u>	LOWER RADIATOR SUPPORT	<u>23.1"</u>	<u>51.8"</u>	<u>57.7"</u>	<u>51.8"</u>	<u>20.5"</u>	<u>10.4"</u>	<u>8.4"</u>	<u>6.8"</u>	<u>6.4"</u>	<u>-18.45"</u>
	- BUMPER		<u>.8"</u>		<u>.8"</u>	<u>.4"</u>	<u>0</u>	<u>0</u>	<u>.4"</u>	<u>.8"</u>	
	- FREE SPACE		<u>5.0"</u>		<u>5.0"</u>	<u>5.0"</u>	<u>5.0"</u>	<u>5.0"</u>	<u>5.0"</u>	<u>5.0"</u>	
	- BUMPER		<u>4.0"</u>		<u>4.0"</u>	<u>4.0"</u>	<u>4.0"</u>	<u>4.0"</u>	<u>4.0"</u>	<u>4.0"</u>	
	- RADIATOR FREE SPACE		<u>42.0"</u>		<u>42.0"</u>	<u>11.1"</u>	<u>1.4"</u>	<u>-6"</u>	<u>-2.6"</u>	<u>-3.4"</u>	
	TOTAL		<u>7.9"</u>		<u>7.9"</u>	<u>7.9"</u>	<u>7.9"</u>	<u>7.9"</u>	<u>7.9"</u>	<u>7.9"</u>	
	+ STRIKE LINE ADJUST.		<u>49.9"</u>		<u>49.9"</u>	<u>19.0"</u>	<u>9.3"</u>	<u>7.3"</u>	<u>5.3"</u>	<u>4.5"</u>	
	RESULTANT		<u>0.0</u>								

National Highway Traffic Safety  
Administration

## EXTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number \_\_\_\_\_

2. Case Number - Stratum DSE-94-AB-015

3. Vehicle Number 01

PAGE TWO

## VEHICLE IDENTIFICATION

VIN 1B3AP24K0BN \* \* \* \* \* Model Year 94

Vehicle Make (specify): DODGE Vehicle Model (specify): SHADOW 3-Door

## LOCATOR

Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L
<u>04</u>	<u>BEGINS LEFT FRONT BUMPER CORNER</u>	<u>FULL FRONTAL</u>
<u>05</u>	<u>BEGINS 148.2cm (58.3in) REARWARD OF R/F AXLE</u>	<u>NOT MEASURED - CDC ONLY</u>
<u>06</u>	<u>R/F BUMPER - NO RESIDUAL DEFORMATION</u>	<u>NOT MEASURED - CDC ONLY</u>

## CRUSH PROFILE IN CENTIMETERS

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure and document on the vehicle diagram the location of maximum crush.

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

Specific Impact Number	Plane of Impact C-Measurements	Direct Damage		Field L	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	±D
		Width (CDC)	Max Crush								
<u>01</u>	<u>FRONT BUMPER</u>	<u>5.1</u>	<u>&lt; 2.5</u>	<u>NOT MEASURED - CDC ONLY - ZONE 1</u>							
<u>02</u>	<u>MAX. EXTENSION R/F FENDER</u>	<u>140</u>	<u>33.5</u>	<u>NOT MEASURED - CDC ONLY - ZONE 2</u>							
<u>03</u>	<u>MAX. EXTENSION R/F DOOR</u>	<u>68</u>	<u>11.4</u>	<u>NOT MEASURED - CDC ONLY - ZONE 1</u>							
<u>05</u>	<u>MAX. EXTENSION R. SIDE</u>	<u>54</u>	<u>28.5</u>	<u>NOT MEASURED - CDC ONLY - ZONE 3</u>							
<u>06</u>	<u>FRONT BUMPER</u>	<u>N/A</u>	<u>0</u>	<u>NOT MEASURED - NO RESIDUAL DEFORMATION - CDC ONLY</u>							
				<u>U.S. EQUIVALENTS</u>							
<u>01</u>	<u>FRONT BUMPER</u>	<u>2.4"</u>	<u>&lt; 1.4"</u>				<u>CDC ONLY - ZONE 1</u>				
<u>02</u>	<u>MAX. EXTENSION R/F FENDER</u>	<u>55.1"</u>	<u>13.2"</u>				<u>CDC ONLY - ZONE 2</u>				
<u>03</u>	<u>MAX. EXTENSION R/F DOOR</u>	<u>26.8"</u>	<u>4.3"</u>				<u>CDC ONLY - ZONE 1</u>				
<u>05</u>	<u>MAX. EXTENSION R. SIDE</u>	<u>21.3"</u>	<u>11.2"</u>				<u>CDC ONLY - ZONE 3</u>				
<u>06</u>	<u>FRONT BUMPER</u>	<u>N/A</u>	<u>0</u>	<u>NO RESIDUAL DEFORMATION - CDC ONLY</u>							

# ORIGINAL SPECIFICATIONS WORK SHEET

Wheelbase	<u>φ</u> <u>9</u> <u>7</u> . <u>2</u> inches	x 2.54 =	<u>2</u> <u>4</u> <u>7</u> cm
Overall Length	<u>1</u> <u>7</u> <u>1</u> . <u>9</u> inches	x 2.54 =	<u>4</u> <u>3</u> <u>7</u> cm
Maximum Width	<u>φ</u> <u>6</u> <u>7</u> . <u>3</u> inches	x 2.54 =	<u>1</u> <u>7</u> <u>1</u> cm
Curb Weight	<u>φ</u> <u>2</u> , <u>6</u> <u>φ</u> <u>8</u> pounds	x .4536 =	<u>1</u> . <u>1</u> <u>8</u> <u>3</u> kg
Average Track	<u>φ</u> <u>5</u> <u>7</u> . <u>4</u> inches	x 2.54 =	<u>1</u> <u>4</u> <u>6</u> cm
Front Overhang	<u>φ</u> <u>3</u> <u>8</u> . <u>2</u> inches	x 2.54 =	<u>φ</u> <u>9</u> <u>7</u> cm
Rear Overhang	<u>φ</u> <u>3</u> <u>6</u> . <u>6</u> inches	x 2.54 =	<u>φ</u> <u>9</u> <u>3</u> cm
Undeformed End Width	<u>φ</u> <u>6</u> <u>φ</u> . <u>φ</u> inches	x 2.54 =	<u>1</u> <u>5</u> <u>2</u> cm
Engine Size: cyl./displ.	<u>2</u> <u>2</u> <u>φ</u> <u>φ</u> cc	x .001 =	<u>2</u> . <u>2</u> L
	<u>1</u> <u>3</u> <u>4</u> CID	x .0164 =	<u>2</u> . <u>2</u> L



## National Accident Sampling System-Crashworthiness Data System: Exterior Vehicle Form

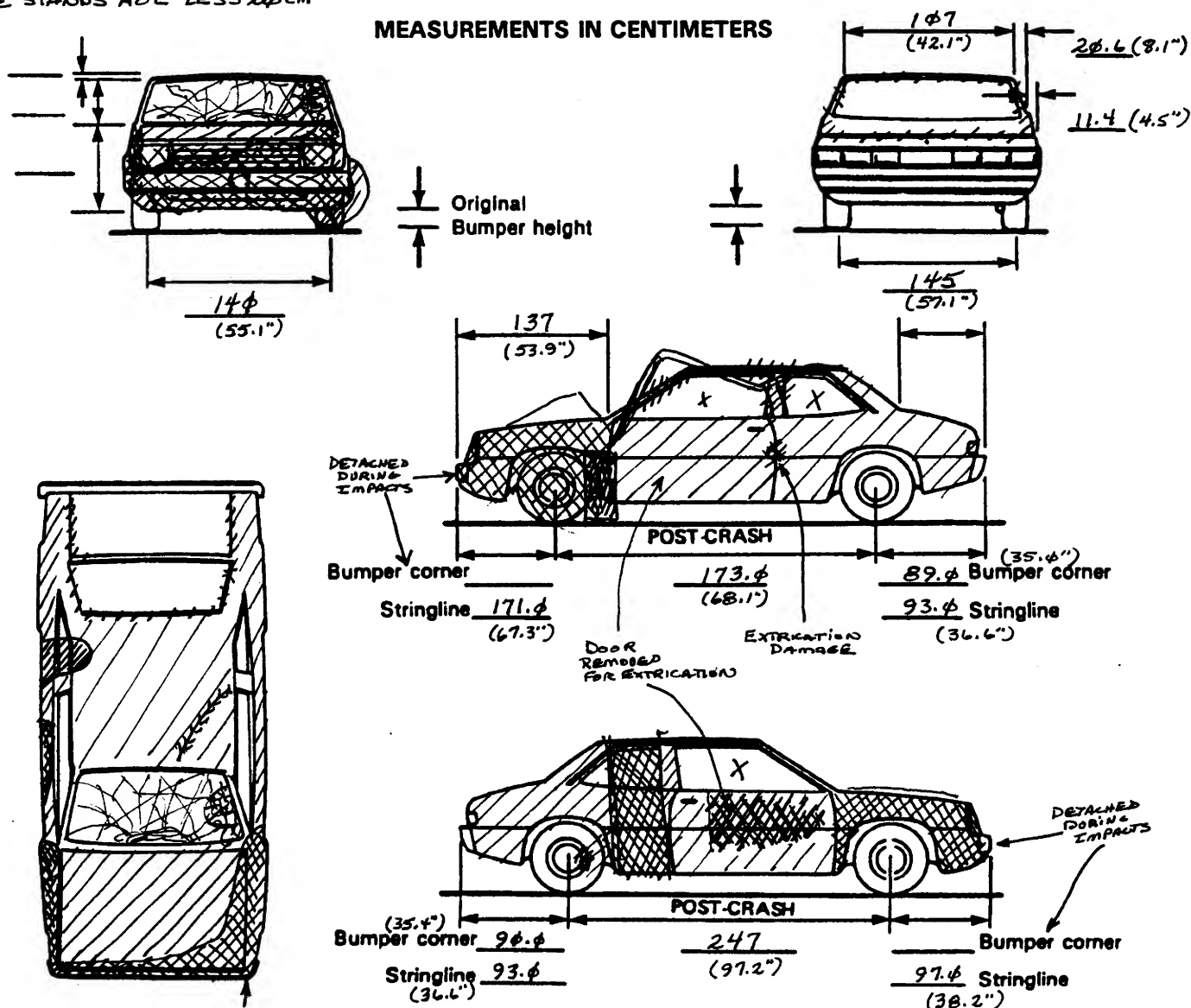
Page 2a

## VEHICLE DAMAGE SKETCH

<b>TIRE—WHEEL DAMAGE</b> a. Rotation physically restricted RF <u>2</u> LF <u>1</u> RR <u>2</u> LR <u>2</u> (1) Yes (2) No (8) NA (9) Unk.		b. Tire deflated RF <u>2</u> LF <u>1</u> RR <u>1</u> LR <u>2</u>		<b>ORIGINAL SPECIFICATIONS</b> Wheelbase <u>247</u> cm Overall Length <u>437</u> cm Maximum Width <u>171</u> cm Curb Weight <u>1,183</u> kg Average Track <u>146</u> cm Front Overhang <u>97</u> cm Rear Overhang <u>93</u> cm Undeformed End Width <u>152</u> cm Engine Size: cyl./displ. <u>I4/2.2</u> L		<b>WHEEL STEER ANGLES</b> (For locked front wheels or displaced rear axles only) RF $\pm$ <u>—</u> ° LF $\pm$ <u>8.5</u> ° RR $\pm$ <u>—</u> ° LR $\pm$ <u>—</u> ° Within $\pm$ 5 degrees	
<b>TYPE OF TRANSMISSION</b> <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Automatic				<b>DRIVE WHEELS</b> <input checked="" type="checkbox"/> FWD <input type="checkbox"/> RWD <input type="checkbox"/> 4WD			
				Approximate Cargo Weight <u>23</u> kg			

GAUGE STANDS AOL LESS 20 cm

## MEASUREMENTS IN CENTIMETERS



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.



## COLLISION DEFORMATION CLASSIFICATION

## HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>Ø 4</u>	5. <u>4 2</u>	6. <u>1 2</u>	7. <u>F</u>	8. <u>Y</u>	9. <u>E</u>	10. <u>W</u>	11. <u>Ø 5</u>

## Second Highest Delta "V"

12. <u>Ø 5</u>	13. <u>4 2</u>	14. <u>Ø 3</u>	15. <u>R</u>	16. <u>P</u>	17. <u>A</u>	18. <u>W</u>	19. <u>Ø 3</u>
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## CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

## HIGHEST DELTA "V"

20. <u>L</u>	21. <u>C<sub>1</sub></u>	<u>C<sub>2</sub></u>	<u>C<sub>3</sub></u>	<u>C<sub>4</sub></u>	<u>C<sub>5</sub></u>	<u>C<sub>6</sub></u>	22. <u>± D</u>
<u>1 5 2</u> (6Ø.in)	<u>1 2 7</u> (5Ø.in)	<u>Ø 4 8</u> (19.in)	<u>Ø 2 4</u> (Ø9.in)	<u>Ø 1 8</u> (Ø7.in)	<u>Ø 1 3</u> (Ø5.in)	<u>Ø 1 1</u> (Ø5.in)	<u>+ Ø 4 7</u> (-18.in)

## Second Highest Delta "V"

23. <u>L</u>	24. <u>C<sub>1</sub></u>	<u>C<sub>2</sub></u>	<u>C<sub>3</sub></u>	<u>C<sub>4</sub></u>	<u>C<sub>5</sub></u>	<u>C<sub>6</sub></u>	25. <u>± D</u>
<u>NOT MEASURED - CDC ONLY - ZONE 3</u>							<u>-</u>

26. Are CDCs Documented but Not Coded on The Automated File? 1  
(0) No  
(1) Yes

27. Researcher's Assessment of Vehicle Disposition 1  
(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

28. Original Wheelbase 2 4 7  
Code to the nearest centimeter  
(999) Unknown

Ø 9 7 . 2 inches X 2.54 = 2 4 7 centimeters

<p>29. Is This A Multi-Stage Manufactured Vehicle And/Or A Certified Altered Vehicle? <u>ϕ</u></p> <p>(0) No post manufacturer modifications</p> <p>(1) Yes - post manufacturer modifications (specify): _____</p> <p>_____          (Include photograph of CERTIFICATION PLACARD in case report)</p> <p>(9) Unknown if vehicle is modified</p>	<p>34. Fuel Tank-1 Location <u>1</u></p>
<p>30. Fire Occurrence <u>ϕ</u></p> <p>(0) No fire</p> <p>Yes, fire occurred</p> <p>(1) Minor</p> <p>(2) Major</p> <p>(9) Unknown</p>	<p>35. Fuel Tank-2 Location <u>ϕ</u></p> <p>(0) No fuel tank</p> <p>(1) Aft of center of the rear wheels (rear axle) centered</p> <p>(2) Aft of center of the rear wheels (rear axle) left side</p> <p>(3) Aft of center of the rear wheels (rear axle) right side</p> <p>(4) Forward of center of the rear wheels (rear axle) centered</p> <p>(5) Forward of center of the rear wheels (rear axle) left side</p> <p>(6) Forward of center of the rear wheels (rear axle) right side</p> <p>(7) Over center of the rear wheels (rear axle)</p> <p>(8) Other (specify): _____</p> <p>(9) Unknown</p>
<p>31. Origin of Fire <u>ϕ</u></p> <p>(0) No fire</p> <p>(1) Vehicle exterior (front, side, back, top)</p> <p>(2) Exhaust system</p> <p>(3) Fuel tank (and other fuel retention system parts)</p> <p>(4) Engine compartment</p> <p>(5) Cargo/trunk compartment</p> <p>(6) Instrument panel</p> <p>(7) Passenger compartment area</p> <p>(8) Other location (specify): _____</p> <p>(9) Unknown</p>	<p>36. Fuel Tank-1 Filler Cap Location <u>3</u></p>
<p>32. Type of Fuel Tank-1 <u>1</u></p>	<p>37. Fuel Tank-2 Filler Cap Location <u>ϕ</u></p> <p>(0) No fuel tank</p> <p>(1) On back plane</p> <p>(2) Aft of center of the rear wheels (rear axle) on left side plane</p> <p>(3) Aft of center of the rear wheels (rear axle) on right side plane</p> <p>(4) Forward of center of the rear wheels (rear axle) on left side plane</p> <p>(5) Forward of center of the rear wheels (rear axle) on right side plane</p> <p>(6) Over the center of the rear wheels (rear axle) on left side plane</p> <p>(7) Over the center of the rear wheels (rear axle) on right side plane</p> <p>(8) Other (specify): _____</p> <p>(9) Unknown</p>
<p>33. Type of Fuel Tank-2 <u>ϕ</u></p> <p>(0) No fuel tank (electrical vehicle)</p> <p>(1) Metallic</p> <p>(2) Non-metallic</p> <p>(9) Unknown</p>	<p>38. Fuel Tank-1 Damage <u>1</u></p>
	<p>39. Fuel Tank-2 Damage <u>ϕ</u></p> <p>(0) No fuel tank</p> <p>(1) No damage to fuel tank</p> <p>(2) Deformed, no seam failure</p> <p>(3) Deformed, with a seam failure</p> <p>(4) Punctured</p> <p>(5) Lacerated (ripped)</p> <p>(6) Abraded (scraped)</p> <p>(7) Filler neck separation from the fuel tank</p> <p>(8) Other damage (specify): _____</p> <p>(9) Unknown</p>



40. Location of Fuel System-1 Leakage 1

41. Location of Fuel System-2 Leakage φ

(0) No fuel tank

(1) No fuel leakage

*Primary Area Of Leakage*

(2) Tank

(3) Filler neck

(4) Cap

(5) Lines/pump/filter

(6) Vent/emission recovery

(8) Other (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

42. Fuel Type-1 φ 1

43. Fuel Type-2 φ φ

*Single Fuel Type*

(00) No fuel tank

(01) Gasoline

(02) Diesel

(03) CNG (Compressed Natural Gas)

(04) LPG (Liquid Petroleum Gas) also known as Propane

(05) LNG (Liquid Natural Gas)

(06) Methanol (M100 or M85)

(07) Ethanol (E100 or E85)

(08) Other (Hydrogen or others) (specify): \_\_\_\_\_

\_\_\_\_\_

*Electric Powered or Electric/Solar Powered Vehicles*

(10) Lead Acid Battery

(11) Nickel-Iron Battery

(12) Nickel-Cadmium Battery

(13) Sodium Metal Chloride Battery

(14) Sodium Sulfur Battery

(18) Other (Specify): \_\_\_\_\_

(98) Other Hybrid (specify): \_\_\_\_\_

\_\_\_\_\_

(99) Unknown fuel type

44. Is This Vehicle Equipped With More Than Two Fuel Tanks? ϕ

(0) No (one or two tanks only)

*Yes - More Than Two Tanks*

(1) Yes -- no damage to any tank or filler cap and no fuel system leakage

(2) Yes -- no damage to any tank or filler cap but there is fuel system leakage (specify leakage location):

(3) Yes -- damage to an additional tank or filler cap and there is fuel system leakage (specify the following):

Type of tank \_\_\_\_\_

Tank location \_\_\_\_\_

Filler cap location \_\_\_\_\_

Tank damage \_\_\_\_\_

Location of leakage \_\_\_\_\_

Type of fuel \_\_\_\_\_

(9) Unknown if more than two tanks

## COMMENTS

\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED AND WAS NOT AN AOPS \*\*\*  
(I.E., GV09=0 OR 9 AND GV36=0), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.

National Highway Traffic Safety  
Administration

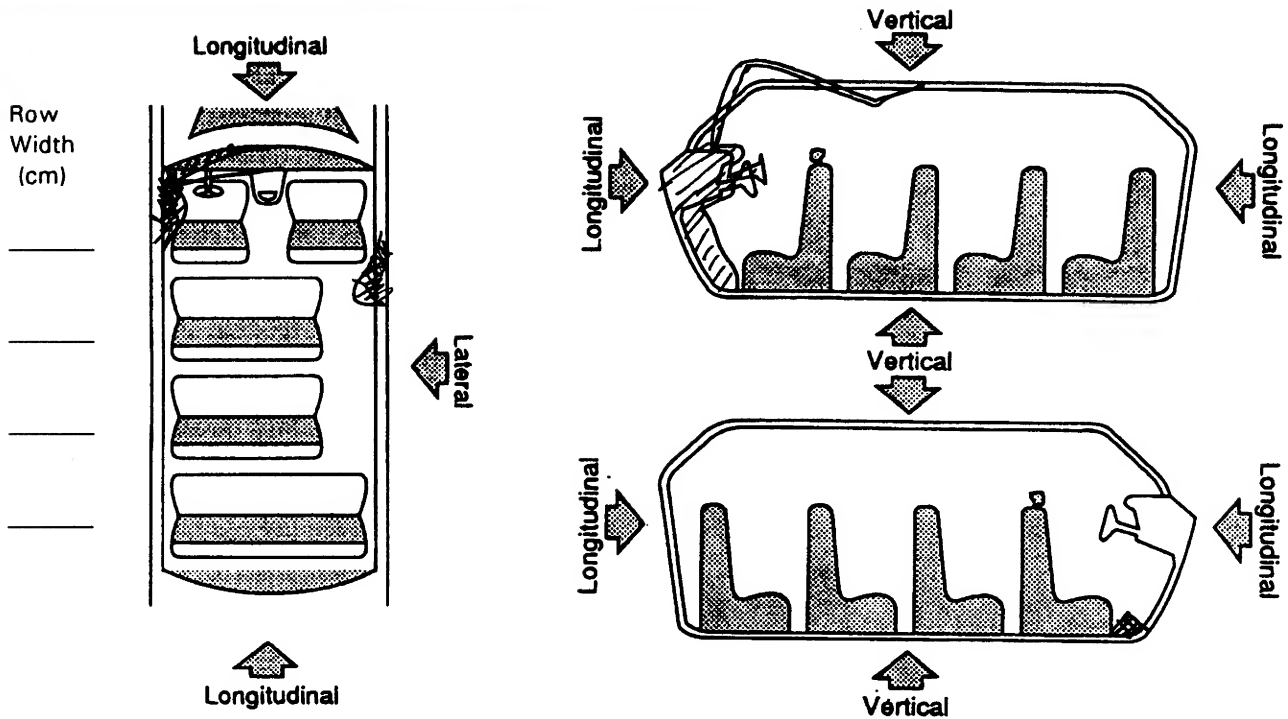
## INTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

<b>1. Primary Sampling Unit Number</b> _____	
<b>2. Case Number - Stratum</b> <u>DSI-94-AB-015</u>	
<b>3. Vehicle Number</b> <u>01</u>	
<b>INTEGRITY</b>	
<b>4. Passenger Compartment Integrity</b> <u>06</u> (00) No integrity loss  Yes, Integrity Was Lost Through (01) Windshield (02) Door (side) (03) Door/hatch (back door) (04) Roof (05) Roof glass (06) Side window (07) Rear window (backlight) (08) Roof and roof glass (09) Windshield and door (side) (10) Windshield and roof (11) Side and rear window (side window and backlight) (12) Windshield and side window (13) Door and side window (98) Other combination of above (specify): _____ (99) Unknown	
<b>Door, Tailgate or Hatch Opening</b> <b>5. LF</b> <u>3</u> <b>6. RF</b> <u>3</u> <b>7. LR</b> <u>0</u> <b>8. RR</b> <u>0</u> <b>9. TG/H</b> <u>9</u> (0) No door/gate/hatch (1) Door/gate/hatch remained closed and operational (2) Door/gate/hatch came open during collision (3) Door/gate/hatch jammed shut (8) Other (specify): _____ (9) Unknown	
<b>Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then code 0</b> <b>10. LF</b> <u>0</u> <b>11. RF</b> <u>0</u> <b>12. LR</b> <u>0</u> <b>13. RR</b> <u>0</u> <b>14. TG/H</b> <u>9</u> (0) No door/gate/hatch or door not opened  Door, Tailgate or Hatch Came Open During Collision (1) Door operational (no damage) (2) Latch/striker failure due to damage (3) Hinge failure due to damage (4) Door structure failure due to damage (5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage (6) Latch/striker and hinge failure due to damage (8) Other failure (specify): _____ (9) Unknown	
<b>GLAZING</b>	
<b>Glazing Damage from Impact Forces</b> <b>15. WS</b> <u>2</u> <b>16. LF</b> <u>6</u> <b>17. RF</b> <u>6</u> <b>18. LR</b> <u>6</u> <b>19. RR</b> <u>6</u> <b>20. BL</b> <u>0</u> <b>21. Roof</b> <u>8</u> <b>22. Other</b> <u>8</u> (0) No glazing damage from impact forces (2) Glazing in place and cracked from impact forces (3) Glazing in place and holed from impact forces (4) Glazing out-of-place (cracked or not) and not holed from impact forces (5) Glazing out-of-place and holed from impact forces (6) Glazing disintegrated from impact forces (7) Glazing removed prior to accident (8) No glazing (9) Unknown if damaged	
<b>Glazing Damage from Occupant Contact</b> <b>23. WS</b> <u>9</u> <b>24. LF</b> <u>9</u> <b>25. RF</b> <u>9</u> <b>26. LR</b> <u>0</u> <b>27. RR</b> <u>9</u> <b>28. BL</b> <u>0</u> <b>29. Roof</b> <u>0</u> <b>30. Other</b> <u>0</u> (0) No occupant contact to glazing or no glazing (1) Glazing contacted by occupant but no glazing damage (2) Glazing in place and cracked by occupant contact (3) Glazing in place and holed by occupant contact (4) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact (5) Glazing out-of-place by occupant contact and holed by occupant contact (6) Glazing disintegrated by occupant contact (9) Unknown if contacted by occupant	
<b>If No Glazing Damage And No Occupant Contact or No Glazing, Then Code IV31 Through IV46 As 0</b>	
<b>Type of Window/Windshield Glazing</b> <b>31. WS</b> <u>1</u> <b>32. LF</b> <u>2</u> <b>33. RF</b> <u>2</u> <b>34. LR</b> <u>2</u> <b>35. RR</b> <u>2</u> <b>36. BL</b> <u>0</u> <b>37. Roof</b> <u>0</u> <b>38. Other</b> <u>0</u> (0) No glazing contact and no damage, or no glazing (1) AS-1 - Laminated (2) AS-2 - Tempered (3) AS-3 - Tempered-tinted (4) AS-14 - Glass/Plastic (8) Other (specify): _____ (9) Unknown	
<b>Window Precrash Glazing Status</b> <b>39. WS</b> <u>1</u> <b>40. LF</b> <u>2</u> <b>41. RF</b> <u>2</u> <b>42. LR</b> <u>1</u> <b>43. RR</b> <u>1</u> <b>44. BL</b> <u>0</u> <b>45. Roof</b> <u>0</u> <b>46. Other</b> <u>0</u> (0) No glazing contact and no damage, or no glazing (1) Fixed (2) Closed (3) Partially opened (4) Fully opened (9) Unknown	

# INTRUSION WORKSHEET

Note: Sketch intruded areas



LOCATION OF INTRUSION	INTRUDED COMPONENT	(All Measurements Are In Centimeters)			DOMINANT CRUSH DIRECTION
		COMPARISON VALUE	INTRUDED VALUE	INTRUSION	
11	TOE PAN	140.6 (55.4")	108.2 (42.6")	32.4 (12.8")	LONG.
23	"B" PILLAR (UPPER)	66.1 (26.0")	40.8 (16.1")	25.3 (10.0")	LATERAL
11	FLOOR/SILL	66.1 (26.0")	45.8 (18.0")	20.3 (8.0")	LATERAL
11	"A" PILLAR	80.6 (31.7")	65.6 (25.8")	15.0 (5.9")	LONG.
13	FLOOR	15.7 (6.2")	6.1 (2.4")	9.6 (3.8")	VERTICAL
11	L. INST. PANEL	30.0 (11.8")	-10 (-3.9")	40.0 (15.7")	LONG
11	L. INST. PANEL	57.0 (22.5")	70.0 (27.6")	13.0 (5.1")	VERTICAL
		-	-	=	
		-	-	=	
		-	-	=	
		-	-	=	
		-	-	=	
		-	-	=	
		-	-	=	
		-	-	=	
		-	-	=	

## OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

## INTRUDING COMPONENT

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47. <u>1 1</u>	48. <u>φ 2</u>	49. <u>4</u>	50. <u>2</u>
2nd	51. <u>1 1</u>	52. <u>φ 5</u>	53. <u>4</u>	54. <u>2</u>
3rd	55. <u>2 3</u>	56. <u>φ 7</u>	57. <u>3</u>	58. <u>3</u>
4th	59. <u>1 1</u>	60. <u>1 7</u>	61. <u>3</u>	62. <u>3</u>
5th	63. <u>1 1</u>	64. <u>φ 6</u>	65. <u>3</u>	66. <u>2</u>
6th	67. <u>1 1</u>	68. <u>φ 2</u>	69. <u>2</u>	70. <u>1</u>
7th	71. <u>1 3</u>	72. <u>1 7</u>	73. <u>2</u>	74. <u>1</u>
8th	75. <u>    </u>	76. <u>    </u>	77. <u>    </u>	78. <u>    </u>
9th	79. <u>    </u>	80. <u>    </u>	81. <u>    </u>	82. <u>    </u>
10th	83. <u>    </u>	84. <u>    </u>	85. <u>    </u>	86. <u>    </u>

## Interior Components

- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A (A1/A2)-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Door panel (side)
- (12) Roof (or convertible top)
- (13) Roof side rail
- (14) Windshield
- (15) Windshield header
- (16) Window frame
- (17) Floor pan (includes sill)
- (18) Backlight header
- (19) Front seat back
- (20) Second seat back
- (21) Third seat back
- (22) Fourth seat back
- (23) Fifth seat back
- (24) Seat cushion
- (25) Back door/panel (e.g., tailgate)
- (26) Other interior component (specify):

- (27) Side panel - forward of the A (A2)-pillar
- (28) Side panel - rear of the A (A2)-pillar

## Exterior Components

- (30) Hood
- (31) Outside surface of this vehicle (specify):
- (32) Other exterior object in the environment (specify):
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify):
- (99) Unknown

## LOCATION OF INTRUSION

Front Seat  
 (11) Left  
 (12) Middle  
 (13) Right

Fourth Seat  
 (41) Left  
 (42) Middle  
 (43) Right

Second Seat  
 (21) Left  
 (22) Middle  
 (23) Right

(97) Catastrophic  
 (98) Other enclosed area (specify)

(99) Unknown

Third Seat  
 (31) Left  
 (32) Middle  
 (33) Right

## MAGNITUDE OF INTRUSION

- (1) ≥ 3 centimeters but < 8 centimeters
- (2) ≥ 8 centimeters but < 15 centimeters
- (3) ≥ 15 centimeters but < 30 centimeters
- (4) ≥ 30 centimeters but < 46 centimeters
- (5) ≥ 46 centimeters but < 61 centimeters
- (6) ≥ 61 centimeters
- (7) Catastrophic
- (9) Unknown

## DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown



STEERING RIM/SPOKE DEFORMATION

(All Measurements Are in Centimeters)

COMPARISON VALUE	—	DAMAGE VALUE	=	DEFORMATION
	—		=	
	—		=	
	—		=	
	—		=	
	—		=	

**STEERING COLUMN**87. Steering Column Type 1

- (1) Fixed column  
 (2) Tilt column  
 (3) Telescoping column  
 (4) Tilt and telescoping column  
 (8) Other column type (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

88. Blank X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.

89. Blank X X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.

90. Blank X X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.

91. Blank X X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.

92. Steering Rim/Spoke Deformation φ φ

- Code actual measured deformation to the nearest centimeter  
 (00) No steering rim deformation  
 (01-14) Actual measured value in centimeters  
 (15) 15 centimeters or more  
 (98) Observed deformation cannot be measured  
 (99) Unknown

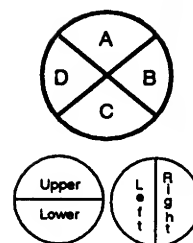
93. Location of Steering Rim/Spoke Deformation φ φ*Quarter Sections*

- (01) Section A  
 (02) Section B  
 (03) Section C  
 (04) Section D

*Half Sections*

- (05) Upper half of rim/spoke  
 (06) Lower half of rim/spoke  
 (07) Left half of rim/spoke  
 (08) Right half of rim/spoke

- (09) Complete steering wheel collapse  
 (10) Undetermined location  
 (99) Unknown

**INSTRUMENT PANEL**94. Odometer Reading φ 12,000

\_\_\_\_\_ kilometers—Code to the nearest 1,000 kilometers

- (000) No odometer  
 (001) Less than 1,500 kilometers  
 (500) 499,500 kilometers or more  
 (999) Unknown

φ φ 7.41 φ miles X 1.6093 = φ 11.925 kilometers

Source: INSPECTION

95. Instrument Panel Damage from Occupant Contact? 1

- (0) No  
 (1) Yes  
 (9) Unknown

96. Knee Bolsters Deformed from Occupant Contact? 8

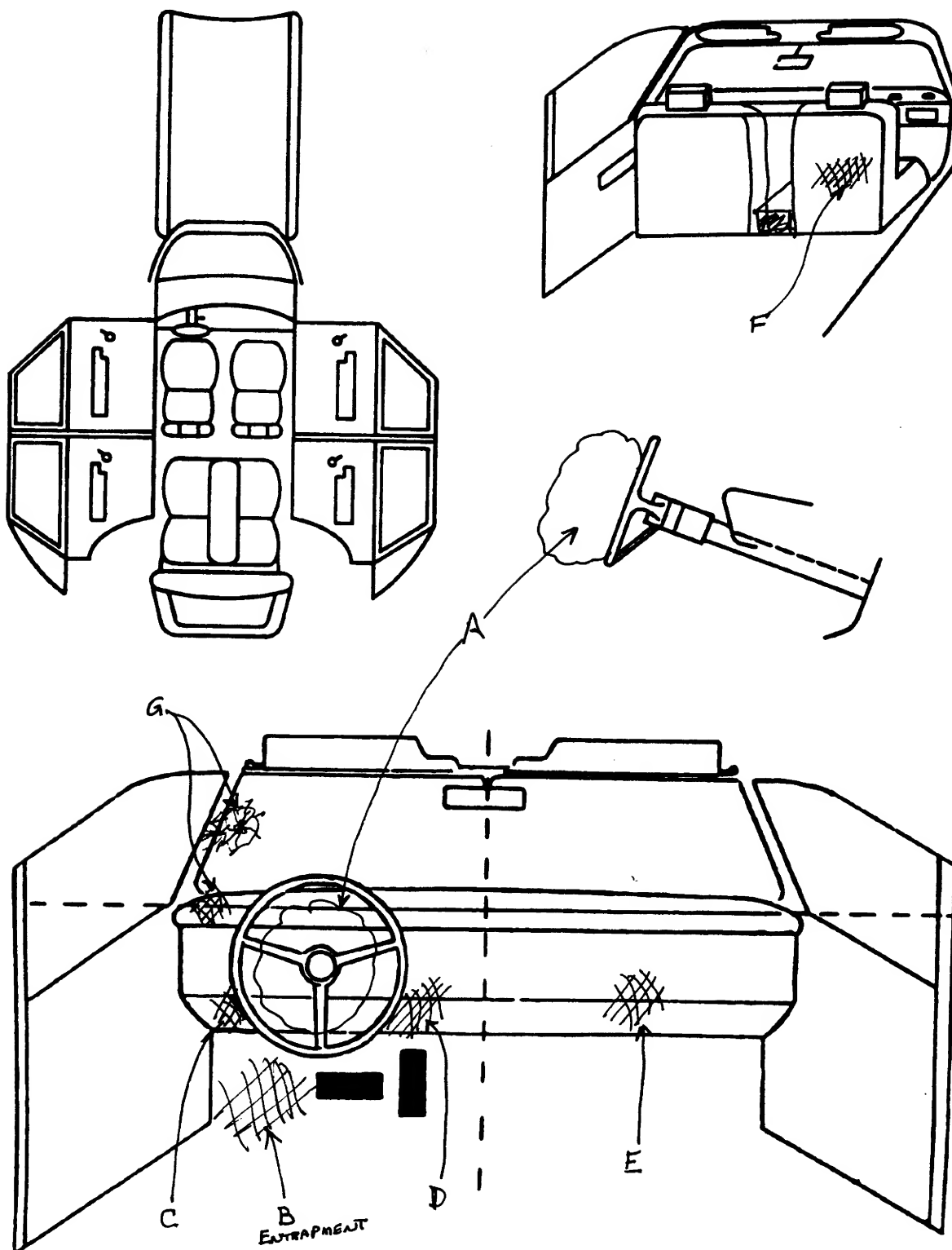
- (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown

97. Did Glove Compartment Door Open During Collision(s)? 1

- (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown

## VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure).

Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.

Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

## POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	45	1	FACE/UPPER TORSO	A/B DEPLOYED / BLOOD	1
B	56	1	L. & R. FEET	INTRUSION / SCUFF MARKS	1
C	09	1	L. KNEE	DEFORMATION / ABRADED	1
D	09	1	R. KNEE	DEFORMATION / ABRADED	1
E	11	2	R & L KNEES	DEFORMATION	1
F	40	3	TORSO	DEFORMATION / ABRADED	1
G	14	1	HEAD/FACE	INST. PANEL - BLOOD / ABRADED WINDSHIELD - SPIDER WEB / BODY OIL	1
H					
I					
J					
K					
L					
M					
N					

## CODES FOR INTERIOR COMPONENTS

## FRONT

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (19) Other front object (specify): \_\_\_\_\_

## LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-pillar

- (23) Left B-pillar
- (24) Other left pillar (specify): \_\_\_\_\_
- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (27) Other left side object (specify): \_\_\_\_\_
- (28) Left side window sill
- RIGHT SIDE
- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A (A1/A2)-pillar
- (33) Right B-pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B pillar, or roof side rail.
- (37) Other right side object (specify): \_\_\_\_\_
- (38) Right side window sill

## INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)

- (46) Other occupants (specify): \_\_\_\_\_

- (47) Interior loose objects

- (48) Child safety seat (specify): \_\_\_\_\_

- (49) Other interior object (specify): \_\_\_\_\_

## ROOF

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

## FLOOR

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

## REAR

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

## CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown



## AUTOMATIC RESTRAINTS

**NOTES:** Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

### AIR BAGS

		Left	Right
F I R S T	Availability/Function		ϕ
	Deployment		ϕ
	Failure		ϕ

#### Air Bag System Availability/Function

- (0) Not equipped/not available  
(1) Air bag

#### Non-functional

- (2) Air bag disconnected (specify): \_\_\_\_\_  
(3) Air bag not reinstalled  
(9) Unknown

#### Air Bag System Deployment

- (0) Not equipped/not available  
(1) Air bag deployed during accident (as a result of impact)  
(2) Air bag deployed inadvertently just prior to accident  
(3) Air bag deployed, accident sequence undetermined  
(4) Nondeployed  
(5) Unknown if deployed  
(6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
(9) Unknown

#### Are There Indications of Air Bag System Failure?

- (0) Not equipped/not available  
(1) No  
(2) Yes (specify): \_\_\_\_\_  
(9) Unknown

### AUTOMATIC BELTS

		Left	Right
F I R S T	Availability/Function	ϕ	
	Use	ϕ	
	Type	ϕ	2
	Proper Use	ϕ	
	Failure Modes	ϕ	

#### Automatic (Passive) Belt System Availability/Function

- (0) Not equipped/not available  
(1) 2 point automatic belts  
(2) 3 point automatic belts  
(3) Automatic belts - type unknown

#### Non-functional

- (4) Automatic belts destroyed or rendered inoperative  
(9) Unknown

#### Automatic (Passive) Belt System Use

- (0) Not equipped/not available/destroyed or rendered inoperative  
(1) Automatic belt in use  
(2) Automatic belt not in use (manually disconnected, motorized track inoperative)  
(3) Automatic belt use unknown  
(9) Unknown

#### Automatic (Passive) Belt System Type

- (0) Not equipped/not available  
(1) Non-motorized system  
(2) Motorized system  
(9) Unknown

#### Proper Use of Automatic (Passive) Belt System

- (0) Not equipped/not available/not used  
(1) Automatic belt used properly  
(2) Automatic belt used properly with child safety seat

#### Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm  
(4) Automatic shoulder belt worn behind back  
(5) Automatic belt worn around more than one person  
(6) Lap portion of automatic belt worn on abdomen  
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_  
(8) Other improper use of automatic belt system (specify): \_\_\_\_\_  
(9) Unknown

#### Automatic (Passive) Belt Failure Modes During Accident

- (0) Not equipped/not available/not in use  
(1) No automatic belt failure(s)  
(2) Torn webbing (stretched webbing not included)  
(3) Broken buckle or latchplate  
(4) Upper anchorage separated  
(5) Other anchorage separated (specify): \_\_\_\_\_  
(6) Broken retractor  
(7) Combination of above (specify): \_\_\_\_\_  
(8) Other automatic belt failure (specify): \_\_\_\_\_  
(9) Unknown

# MANUAL RESTRAINTS

**NOTES:** Encode the applicable data for each seat position in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a Child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
F I R S T	Availability	4	φ	3
	Evidence of usage	INJURIES / POSSIBLE LAMB MARK	—	INJURIES
	Used in this crash?	φ 4	φ φ	φ 3
	Proper Use	1	φ	1
	Failure Modes	1	φ	1
S E C O N D	Availability	4	3	4
	Evidence of usage	NONE	NONE	NONE
	Used in this crash?	φ φ	φ φ	φ φ
	Proper Use	φ	φ	φ
	Failure Modes	φ	φ	φ
O T H E R	Availability			
	Evidence of usage			
	Used in this crash?			
	Proper Use			
	Failure Modes			

## Manual (Active) Belt System Availability

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available - type unknown

## Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify):

(9) Unknown

## Manual (Active) Belt System Use

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify):
- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used - type unknown
- (08) Other belt used (specify):
- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat - type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

## Proper Use of Manual (Active) Belts

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

## Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of manual belt system (specify):

(9) Unknown

## Manual (Active) Belt Failure Modes During Accident

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):
- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other manual belt failure (specify):
- (9) Unknown

## CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat						
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage				1		
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model			Specify Below for Each Child Safety Seat			

### 1. Type of Child Safety Seat

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify):

- (8) Unknown child safety seat type
- (9) Unknown if child safety seat used

### 2. Child Safety Seat Orientation

- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):

- (09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):

- (19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

- (29) Unknown orientation

- (99) Unknown if child safety seat used

### 3. Child Safety Seat Harness Usage

### 4. Child Safety Seat Shield Usage

### 5. Child Safety Seat Tether Usage

Note: Options Below Are Used for Variables 3-5.

- (00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

- (99) Unknown if child safety seat used

### 6. Child Safety Seat Make/Model

(Specify make/model and occupant number)

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## National Accident Sampling System-Crashworthiness Data System: Interior Vehicle Form

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## HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
F I R S T	Head Restraint Type/Damage	3	φ	3
	Seat Type	φ2	φ φ	φ2
	Seat Performance	6	φ	5
	Seat Orientation	1	φ	1
S E C O N D	Head Restraint Type/Damage	φ	φ	φ
	Seat Type	φ5	φ5	φ5
	Seat Performance	3	3	8
	Seat Orientation	1	1	1
T H I R D	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			
O T H E R	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			

## Head Restraint Type/Damage by Occupant at This Occupant Position

- (0) No head restraints
- (1) Integral — no damage
- (2) Integral — damaged during accident
- (3) Adjustable — no damage
- (4) Adjustable — damaged during accident
- (5) Add-on — no damage
- (6) Add-on — damaged during accident
- (8) Other Specify):

(9) Unknown

## Seat Type (this Occupant Position)

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify):

(10) Box mounted seat (i.e., van type)

(99) Unknown

## Seat Performance (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed  
specify: FOLDING LOCKS DISENGAGED & PIVOT DISENGAGED  
BOTTOM LEFT
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): L/F - FLOOR/SILL L/R SEAT BACKREST  
R/R - "B" PILLAR
- (7) Combination of above (specify):

(8) Other (specify):

3 and 6

(9) Unknown

## Seat Orientation (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify):

(9) Unknown

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E., UNUSUAL OCCUPANT CONTACT PATTERN)



**EJECTION/ENTRAPMENT DATA**

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

**EJECTION**      No [☒]      Yes [ ]

Describe indications of ejection and body parts involved in partial ejection(s):

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Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

**Ejection**

- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, Unknown degree
- (9) Unknown

**Ejection Area**

- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear

**(7) Roof**

- (8) Other area (e.g., back of pickup, etc.) (specify):

**(9) Unknown****Ejection Medium**

- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify):

**(5) Integral structure**

- (8) Other medium (specify):

**(9) Unknown****Medium Status (Immediately Prior to Impact)**

- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

**ENTRAPMENT**      No [ ]      Yes [☒]

Describe entrapment mechanism: LEFT AND RIGHT FEET

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Component(s): LEFT FRONT SEAT, FLOOR, TOE PAN AND SILL.

(Note in vehicle interior diagram)

National Highway Traffic Safety  
Administration

## OCCUPANT ASSESSMENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## OCCUPANT'S SEATING

1. Primary Sampling Unit Number
2. Case Number - Stratum DSE-94-AB-015
3. Vehicle Number 01
4. Occupant Number 01

## OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 23  
Code actual age at time of accident.  
(00) Less than one year old (specify by month):  
  
(97) 97 years and older  
(99) Unknown
6. Occupant's Sex 1  
(1) Male  
(2) Female  
(9) Unknown
7. Occupant's Height 173  
Code actual height to the nearest  
centimeter.  
(999) Unknown  
  
68 inches X 2.54 = 173 centimeters
8. Occupant's Weight 058  
Code actual weight to the nearest  
kilogram.  
(999) Unknown  
  
127 pounds X .4536 = 058 kilograms
9. Occupant's Role 1  
(1) Driver  
(2) Passenger  
(9) Unknown

10. Occupant's Seat Position 11  
*Front Seat*  
(11) Left side  
(12) Middle  
(13) Right side  
(14) Other (specify):  
(15) On or in the lap of another occupant
- Second Seat*  
(21) Left side  
(22) Middle  
(23) Right side  
(24) Other (specify):  
(25) On or in the lap of another occupant
- Third Seat*  
(31) Left side  
(32) Middle  
(33) Right side  
(34) Other (specify):  
(35) On or in the lap of another occupant
- Fourth Seat*  
(41) Left side  
(42) Middle  
(43) Right side  
(44) Other (specify):  
(45) On or in the lap of another occupant
- (97) In or on unenclosed area  
(98) Other seat (specify):  
(99) Unknown
11. Occupant's Posture 0  
(0) Normal posture
- Abnormal posture*  
(1) Kneeling or standing on seat  
(2) Lying on or across seat  
(3) Kneeling, standing or sitting in front of seat  
(4) Sitting sideways or turned to talk with another  
occupant or to look out a rear window  
(5) Sitting on a console  
(6) Lying back in a reclined seat position  
(7) Bracing with feet or hands on a surface in front  
of seat  
(8) Other abnormal posture (specify):  
(9) Unknown

## EJECTION/ENTRAPMENT

12. Ejection φ

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area φ

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_
- (9) Unknown

14. Ejection Medium φ

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): \_\_\_\_\_
- (5) Integral structure
- (8) Other medium (specify): \_\_\_\_\_
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) φ

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment 1

(NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)

- (0) Not entrapped
- (1) Entrapped
- (9) Unknown

## National Accident Sampling System-Crashworthiness Data System: Occupant Assessment Form

Page 3

## RESTRAINT SYSTEM EVALUATION

17. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

18. Manual (Active) Belt System Use 0 4

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): \_\_\_\_\_

(02) Shoulder belt \_\_\_\_\_

(03) Lap belt \_\_\_\_\_

(04) Lap and shoulder belt \_\_\_\_\_

(05) Belt used—type unknown \_\_\_\_\_

(08) Other belt used (specify): \_\_\_\_\_

(12) Shoulder belt used with child safety seat \_\_\_\_\_

(13) Lap belt used with child safety seat \_\_\_\_\_

(14) Lap and shoulder belt used with child safety seat \_\_\_\_\_

(15) Belt used with child safety seat—type unknown \_\_\_\_\_

(18) Other belt used with child safety seat (specify): \_\_\_\_\_

(99) Unknown if belt used \_\_\_\_\_

19. Proper Use of Manual (Active) Belts 1

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

20. Manual (Active) Belt Failure Modes During Accident 1

- (0) No manual belt used
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

(6) Broken retractor \_\_\_\_\_

(7) Combination of above (specify): \_\_\_\_\_

(8) Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

21. Air Bag System Availability/Function 1

- (0) Not equipped/not available
- (1) Air bag

*Non-functional*

(2) Air bag disconnected (specify): \_\_\_\_\_

(3) Air bag not reinstalled \_\_\_\_\_

(9) Unknown \_\_\_\_\_

22. Air Bag System Deployment 1

- (0) Not equipped/not available
- (1) Air bag deployed during accident (as a result of impact)
- (2) Air bag deployed inadvertently just prior to accident
- (3) Air bag deployed, accident sequence undetermined
- (4) Nondeployed
- (5) Unknown if deployed
- (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (9) Unknown

23. Are There Indications of Air Bag System Failure? 1

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

Note: See Variables 44 through 48 (Page 5) for Information on Automatic Belts

24. Police Reported Restraint Use 7

- (0) None used
- (1) Police did not indicate restraint use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify): AIR BAG
- (8) Restrained, type unknown
- (9) Police indicated "unknown"

## National Accident Sampling System-Crashworthiness Data System: Occupant Assessment Form

Page 4

## HEAD RESTRAINT AND SEAT EVALUATION

25. Head Restraint Type/Damage by Occupant at This Occupant Position 3

- (0) No head restraints
- (1) Integral—no damage
- (2) Integral—damaged during accident
- (3) Adjustable—no damage
- (4) Adjustable—damaged during accident
- (5) Add-on—no damage
- (6) Add-on—damaged during accident
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown

26. Seat Type (this Occupant Position) 2

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify): \_\_\_\_\_
- (10) Box mounted seat (i.e., van type)
- (99) Unknown

27. Seat Performance (this Occupant Position) 6

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed (specify): \_\_\_\_\_
- (4) Seat track/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): LEFT FRONT FLOOR/SILL  
AND LEFT REAR SEAT BACK  
SUPPORT
- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown



## CHILD SAFETY SEAT

28. Child Safety Seat Make/Model    $\phi$    $\phi$    $\phi$     
 (000) No child safety seat

Applicable codes are found in your NASS CDS  
 Data Collection, Coding and Editing

(950) Built-in child safety seat

(997) Other make/model (specify):

\_\_\_\_\_  
 (998) Unknown make/model

(999) Unknown if child safety seat used

29. Type of Child Safety Seat    $\phi$   

(0) No child safety seat

(1) Infant seat

(2) Toddler seat

(3) Convertible seat

(4) Booster seat

(7) Other type child safety seat (specify):

\_\_\_\_\_  
 (8) Unknown child safety seat type

(9) Unknown if child safety seat used

30. Child Safety Seat Orientation    $\phi$    $\phi$     
 (00) No child safety seat

*Designed for Rear Facing for This Age/Weight*

(01) Rear facing

(02) Forward facing

(08) Other orientation (specify):

\_\_\_\_\_  
 (09) Unknown orientation

*Designed For Forward Facing for This Age/Weight*

(11) Rear facing

(12) Forward facing

(18) Other orientation (specify):

\_\_\_\_\_  
 (19) Unknown orientation

*Unknown Design or Orientation For This  
 Age/Weight, or Unknown Age/Weight*

(21) Rear facing

(22) Forward facing

(28) Other orientation (specify):

\_\_\_\_\_  
 (29) Unknown orientation

(99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage    $\phi$    $\phi$   

32. Child Safety Seat Shield Usage    $\phi$    $\phi$   

33. Child Safety Seat Tether Usage    $\phi$    $\phi$   

Note: Options below applicable to  
 Variables OA31-OA33.

(00) No child safety seat

*Not Designed With Harness/Shield/Tether*

(01) After market harness/shield/tether  
 added, not used

(02) After market harness/shield/tether used

(03) Child safety seat used, but no after market  
 harness/shield/tether added

(09) Unknown if harness/shield/tether  
 added or used

*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used

(12) Harness/shield/tether used

(19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

(21) Harness/shield/tether not used

(22) Harness/shield/tether used

(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

## INJURY CONSEQUENCES

34. Injury Severity (Police Rating) 3

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

35. Treatment - Mortality 3

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):  
\_\_\_\_\_

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (8) Treatment - other (specify):  
\_\_\_\_\_
- (9) Unknown

36. Type Of Medical Facility (for Initial Treatment) 1

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):  
\_\_\_\_\_
- (9) Unknown

37. Hospital Stay 2 2

- (00) Not Hospitalized

Code the number of days (up through 60) that the occupant stayed in hospital.

- (61) 61 days or more
- (99) Unknown

99. Case Occupant 1

- (0) Not Case Occupant
- (1) This is the Case Occupant
- (2) This is the Case Occupant in another case

38. Working Days Lost 6 1

- Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
  - (61) 61 days or more
  - (62) Fatally injured
  - (97) Not working prior to accident
  - (99) Unknown

STOP - GO TO VARIABLE 44 ON PAGE 7

VARIABLES 39 THROUGH 43 ARE COMPLETED BY THE ZONE CENTER

39. Time to Death φ φ

- Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
- (00) Not fatal
  - (96) Fatal - ruled disease
  - (99) Unknown

40. 1st Medically Reported Cause of Death φ φ41. 2nd Medically Reported Cause of Death φ φ42. 3rd Medically Reported Cause of Death φ φ

- Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
- (00) Not fatal or no additional causes
  - (96) Mode of death given but specific injuries are not linked to cause of death. (specify):  
\_\_\_\_\_

- (97) Other result (includes fatal ruled disease) (specify):  
\_\_\_\_\_

- (99) Unknown

43. Number of Recorded Injuries for This Occupant 1 4

- Code the actual number of injuries recorded for this occupant.
- (00) No recorded injuries
  - (97) Injured, details unknown
  - (99) Unknown if injured

## National Accident Sampling System-Crashworthiness Data System: Occupant Assessment Form

Page 7

**AUTOMATIC BELT SYSTEM**44. Automatic (Passive) Belt System Availability/ Function φ

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

45. Automatic (Passive) Belt System Use φ

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):

- (3) Automatic belt use unknown
- (9) Unknown

46. Automatic (Passive) Belt System Type φ

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

47. Proper Use of Automatic (Passive) Belt System φ

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of automatic belt system (specify):
- (9) Unknown

48. Automatic (Passive) Belt Failure Modes During Accident φ

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):
- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other automatic belt failure (specify):
- (9) Unknown

49. Seat Orientation (this Occupant Position) 1

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify):

- (9) Unknown

## Check the Primary Source Used In Determining Belt Use.

- [ ] Not equipped/not available/destroyed or rendered inoperative
- [X] Vehicle inspection
- [ ] Official injury data
- [ ] Driver/occupant interview
- [ ] Other (specify):

- [ ] Unknown if belt used

ARE ALL APPLICABLE MEDICAL RECORDS INCLUDED WITH INITIAL SUBMISSION?

NO [X] YES [ ]

UPDATE CANDIDATE?

NO [X] YES [ ]

**STOP - VARIABLES 50 THROUGH 53 ARE  
COMPLETED BY THE ZONE CENTER**

### TRAUMA DATA

50. Glasgow Coma Scale (GCS) Score 4 6  
 (at Medical Facility)  
 (00) Not injured  
 (01) Injured - not treated at medical facility  
 (02) No GCS Score at medical facility  
 (03-15) Code the actual value of the  
 initial GCS Score recorded at medical  
 facility.  
 (97) Injured, details unknown  
 (99) Unknown if injured
51. Was the Occupant Given Blood? 9  
 (1) No - blood not given  
 (2) Yes - blood given  
 (specify units): \_\_\_\_\_  
 (9) Unknown if blood given
52. Arterial Blood Gases (ABG) -  $\text{HCO}_3$  2 1  
 (00) Not injured  
 (01) Injured, ABGs not measured or reported  
 (02-50) Code the actual value of the  $\text{HCO}_3$   
 (96) ABGs reported,  $\text{HCO}_3$  unknown  
 (97) Injured, details unknown  
 (99) Unknown if injured

### BELT USE DETERMINATION

53. Primary Source of Belt Use Determination 1  
 (0) Not equipped/not available/destroyed  
 or rendered inoperative  
 (1) Vehicle inspection  
 (2) Official injury data  
 (3) Driver/occupant interview  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown if belt used

U.S. Department of Transportation

Form Approved  
O.M.B. No. 2127-0021National Highway Traffic Safety  
Administration

## OCCUPANT INJURY FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number \_\_\_\_\_

3. Vehicle Number Φ 12. Case Number - Stratum DSI-94-AB-Φ154. Occupant Number Φ 1

## INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	Body Region	Type of Anatomic Structure	A.I.S. - 90			Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number	ICD-9
				Specific Anatomic Structure	Level of Injury	A.I.S. Severity						
1st	5. <u>2</u>	6. <u>1</u>	7. <u>4</u>	8. <u>Φ 6</u>	9. <u>2 8</u>	10. <u>5</u>	11. <u>3</u>	12. <u>1 4</u>	13. <u>1</u>	14. <u>2</u>	15. <u>Φ 2</u>	<u>8Φ1.14</u>
2nd	16. <u>2</u>	17. <u>1</u>	18. <u>4</u>	19. <u>Φ 6</u>	20. <u>2 Φ</u>	21. <u>3</u>	22. <u>3</u>	23. <u>1 4</u>	24. <u>1</u>	25. <u>2</u>	26. <u>Φ 2</u>	<u>8Φ1.14</u>
3rd	27. <u>2</u>	28. <u>8</u>	29. <u>5</u>	30. <u>1 8</u>	31. <u>1 4</u>	32. <u>3</u>	33. <u>2</u>	34. <u>Φ 9</u>	35. <u>1</u>	36. <u>2</u>	37. <u>Φ 3</u>	<u>821.11</u>
4th	38. <u>2</u>	39. <u>2</u>	40. <u>5</u>	41. <u>Φ 6</u>	42. <u>1 6</u>	43. <u>2</u>	44. <u>2</u>	45. <u>1 4</u>	46. <u>1</u>	47. <u>1</u>	48. <u>Φ 2</u>	<u>8Φ2.3</u>
5th	49. <u>2</u>	50. <u>2</u>	51. <u>5</u>	52. <u>1 6</u>	53. <u>Φ 4</u>	54. <u>2</u>	55. <u>2</u>	56. <u>1 4</u>	57. <u>1</u>	58. <u>1</u>	59. <u>Φ 2</u>	<u>83Φ.9</u>
6th	60. <u>2</u>	61. <u>2</u>	62. <u>5</u>	63. <u>Φ 8</u>	64. <u>Φ 2</u>	65. <u>2</u>	66. <u>2</u>	67. <u>1 4</u>	68. <u>1</u>	69. <u>1</u>	70. <u>Φ 2</u>	<u>8Φ2.4</u>
7th	71. <u>2</u>	72. <u>8</u>	73. <u>5</u>	74. <u>3 4</u>	75. <u>1 2</u>	76. <u>2</u>	77. <u>2</u>	78. <u>5 6</u>	79. <u>1</u>	80. <u>1</u>	81. <u>Φ 1</u>	<u>824.9</u>
8th	82. <u>2</u>	83. <u>2</u>	84. <u>9</u>	85. <u>Φ 6</u>	86. <u>Φ 2</u>	87. <u>1</u>	88. <u>8</u>	89. <u>1 4</u>	90. <u>1</u>	91. <u>1</u>	92. <u>Φ 2</u>	<u>873.44</u>
9th	93. <u>2</u>	94. <u>7</u>	95. <u>9</u>	96. <u>Φ 6</u>	97. <u>Φ 2</u>	98. <u>1</u>	99. <u>2</u>	100. <u>4 1</u>	101. <u>1</u>	102. <u>1</u>	103. <u>Φ Φ</u>	<u>88Φ.Φ</u>
10th	104. <u>2</u>	105. <u>7</u>	106. <u>9</u>	107. <u>Φ 6</u>	108. <u>Φ 2</u>	109. <u>1</u>	110. <u>1</u>	111. <u>9 7</u>	112. <u>9</u>	113. <u>7</u>	114. <u>Φ Φ</u>	<u>88Φ.Φ</u>

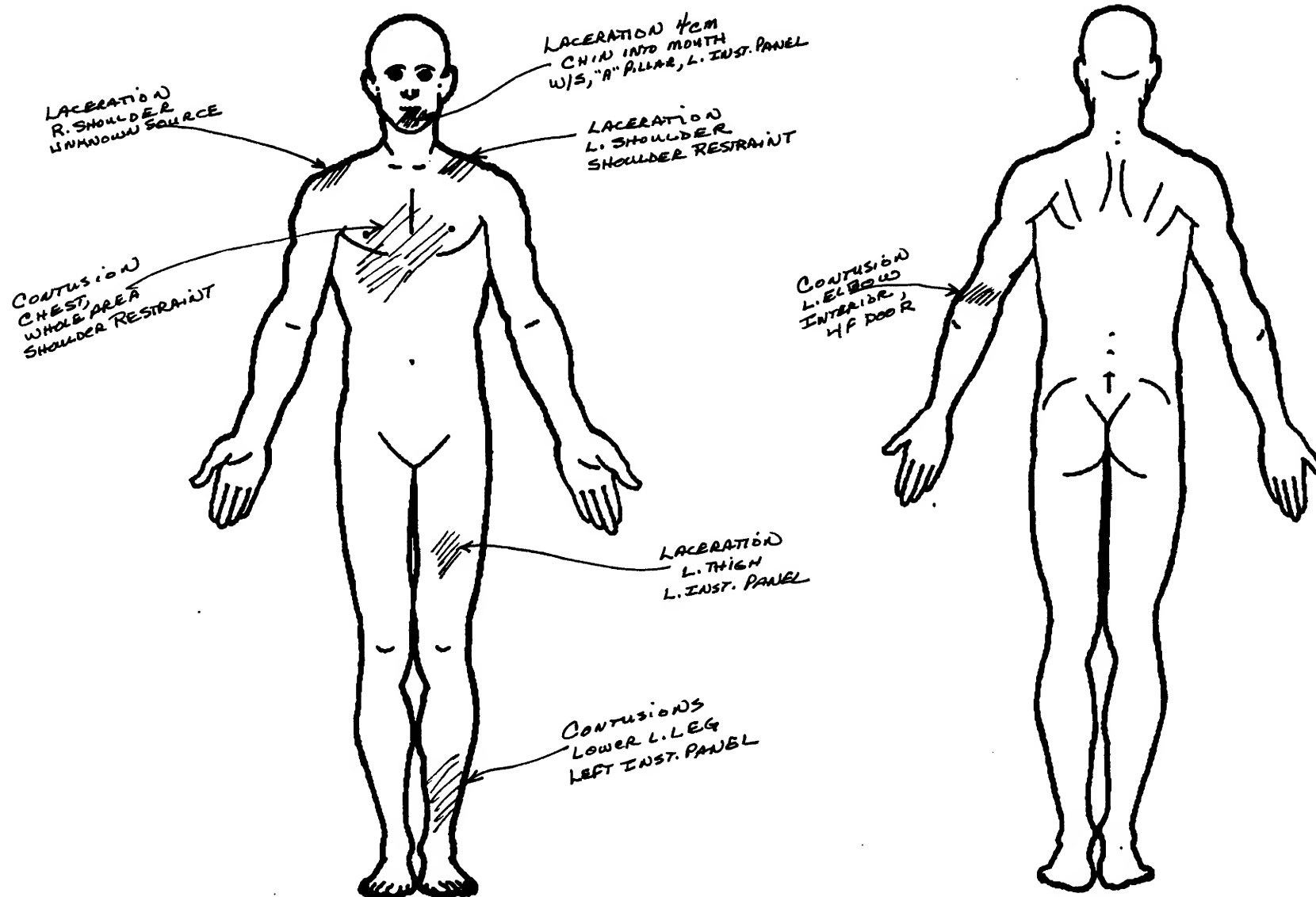


	Source of Injury Data	A.I.S. - 90					Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number	ICD-9
		Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity						
11th	<u>2</u>	<u>8</u>	<u>9</u>	<u>φ6</u>	<u>φ2</u>	<u>1</u>	<u>2</u>	<u>φ9</u>	<u>1</u>	<u>2</u>	<u>φ2</u>	<u>89φ.5</u>
12th	<u>2</u>	<u>7</u>	<u>9</u>	<u>φ4</u>	<u>φ2</u>	<u>1</u>	<u>2</u>	<u>2φ</u>	<u>1</u>	<u>1</u>	<u>φφ</u>	<u>923.1</u>
13th	<u>2</u>	<u>4</u>	<u>9</u>	<u>φ4</u>	<u>φ2</u>	<u>1</u>	<u>φ</u>	<u>41</u>	<u>1</u>	<u>1</u>	<u>φφ</u>	<u>922.</u>
ith	<u>2</u>	<u>8</u>	<u>9</u>	<u>φ4</u>	<u>φ2</u>	<u>1</u>	<u>2</u>	<u>φ9</u>	<u>1</u>	<u>1</u>	<u>φ2</u>	<u>924.7</u>
ith	—	—	—	—	—	—	—	—	—	—	—	
ith	—	—	—	—	—	—	—	—	—	—	—	
'th	—	—	—	—	—	—	—	—	—	—	—	
ith	—	—	—	—	—	—	—	—	—	—	—	
th	—	—	—	—	—	—	—	—	—	—	—	
th	—	—	—	—	—	—	—	—	—	—	—	
1st	—	—	—	—	—	—	—	—	—	—	—	
22nd	—	—	—	—	—	—	—	—	—	—	—	
23rd	—	—	—	—	—	—	—	—	—	—	—	
24th	—	—	—	—	—	—	—	—	—	—	—	
25th	—	—	—	—	—	—	—	—	—	—	—	

# OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

BEST AVAILABLE COPY

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



**SOURCE OF INJURY DATA****OFFICIAL**

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

**UNOFFICIAL**

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

**INJURY SOURCE****FRONT**

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (19) Other front object (specify): \_\_\_\_\_

**LEFT SIDE**

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-pillar
- (23) Left B-pillar
- (24) Other left pillar (specify): \_\_\_\_\_

- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (27) Other left side object (specify): \_\_\_\_\_

- (28) Left side window sill

**RIGHT SIDE**

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A (A1/A2)-pillar
- (33) Right B-pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (37) Other right side object (specify): \_\_\_\_\_

- (38) Right side window sill

**INTERIOR**

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar or door frame attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)
- (46) Other occupants (specify): \_\_\_\_\_
- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_
- (49) Other interior object (specify): \_\_\_\_\_

**ROOF**

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

**FLOOR**

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

**REAR**

- (60) Backlight (rear window)

- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

**EXTERIOR OF OCCUPANT'S VEHICLE**

- (65) Hood
- (66) Outside hardware (e.g., outside mirror, antenna)
- (67) Other exterior surface or tires (specify): \_\_\_\_\_
- (68) Unknown exterior objects

**EXTERIOR OF OTHER MOTOR VEHICLE**

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify): \_\_\_\_\_
- (73) Hood
- (74) Hood ornament
- (75) Windshield, roof rail, A-pillar
- (76) Side surface
- (77) Side mirrors
- (78) Other side protrusions (specify): \_\_\_\_\_
- (79) Rear surface
- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify): \_\_\_\_\_
- (83) Unknown exterior of other motor vehicle

**OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT**

- (84) Ground
- (85) Other vehicle or object (specify): \_\_\_\_\_
- (86) Unknown vehicle or object

**NONCONTACT INJURY**

- (90) Fire in vehicle
- (91) Flying glass
- (92) Other noncontact injury source (specify): \_\_\_\_\_
- (93) Air bag exhaust gases
- (97) Injured, unknown source

**INJURY SOURCE CONFIDENCE LEVEL**

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

**DIRECT/INDIRECT INJURY**

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

**OCCUPANT INJURY CLASSIFICATION**

Body Region	Specific Anatomic Structure	Spine	Abbreviated Injury Scale
(1) Head	<u>Whole Area</u>	(02) Cervical	(1) Minor injury
(2) Face	(02) Skin - Abrasion	(04) Thoracic	(2) Moderate injury
(3) Neck	(04) Skin - Contusion	(06) Lumbar	(3) Serious injury
(4) Thorax	(06) Skin - Laceration		(4) Severe injury
(5) Abdomen	(08) Skin - Avulsion	<u>Vessels, Nerves, Organs, Bones, Joints</u> are assigned consecutive two digit numbers beginning with 02	(5) Critical injury
(6) Spine	(10) Amputation		(6) Maximum (untreatable)
(7) Upper Extremity	(20) Burn	<b>Level of Injury</b>	(7) Injured, unknown severity
(8) Lower Extremity	(30) Crush	Specific injuries are assigned consecutive two-digit numbers beginning with 02.	
(9) Unspecified	(40) Degloving		<b>Aspect</b>
	(50) Injury - NFS		(1) Right
	(90) Trauma, other than mechanical		(2) Left
			(3) Bilateral
			(4) Central
			(5) Anterior
			(6) Posterior
			(7) Superior
			(8) Inferior
			(9) Unknown
			(0) Whole region
<b>Type of Anatomic Structure</b>	<u>Head - LOC</u>	To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.	
(1) Whole Area	(02) Length of LOC		
(2) Vessels	(04, 06, 08) Level of Consciousness		
(3) Nerves	(10) Concussion		
(4) Organs (includes muscles/ligaments)			
(5) Skeletal (includes joints)			
(6) Head - LOC			
(9) Skin			

# OFFICIAL INJURY DATA — SKELETAL INJURIES

Restrained?

— No

X Yes

Blood Alcohol Level  
(mg/dl)

BAL = 0

Glasgow Coma  
Scale Score

GCSS = 6

Units of Blood  
Given

Units = UNK

Arterial Blood Gases

pH = —

PO<sub>2</sub> = —

PCO<sub>2</sub> = —

HCO<sub>3</sub> = 21

BEST AVAILABLE COPY

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

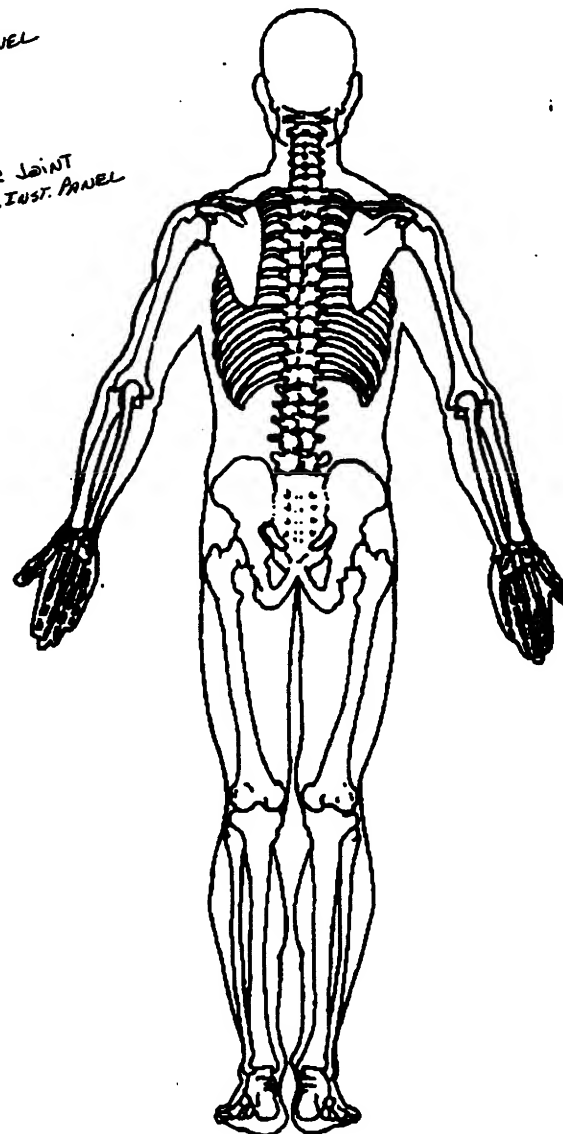
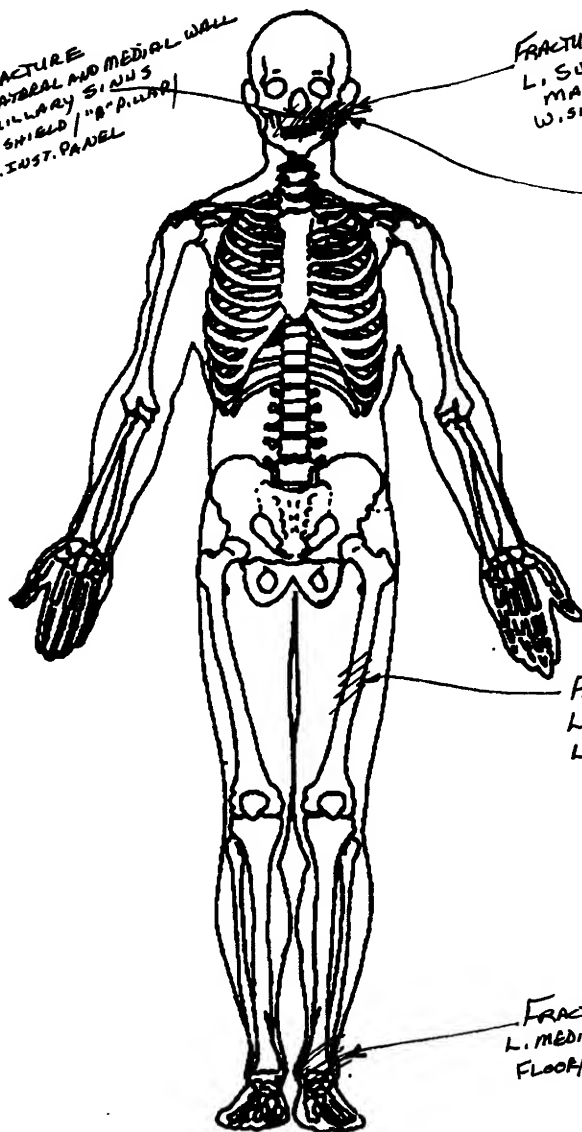
FRacture  
L. LATERAL AND MEDIAL WALL  
MAXILLARY SINUS  
W. SHIELD / "A" PILLAR / L. INST. PANEL

FRacture (OPEN)  
L. SUBMANDIBULAR  
MANDIBLE  
W. SHIELD / "A" PILLAR / L. INST. PANEL

DISLOCATION  
TEMPOROMANDIBULAR JOINT  
W. SHIELD / "A" PILLAR / L. INST. PANEL

FRacture (OPEN)  
L. FEMUR SHAFT  
L. INST. PANEL

FRacture  
L. MEDIAL MALLEOLUS  
FLOOR/DE PAN



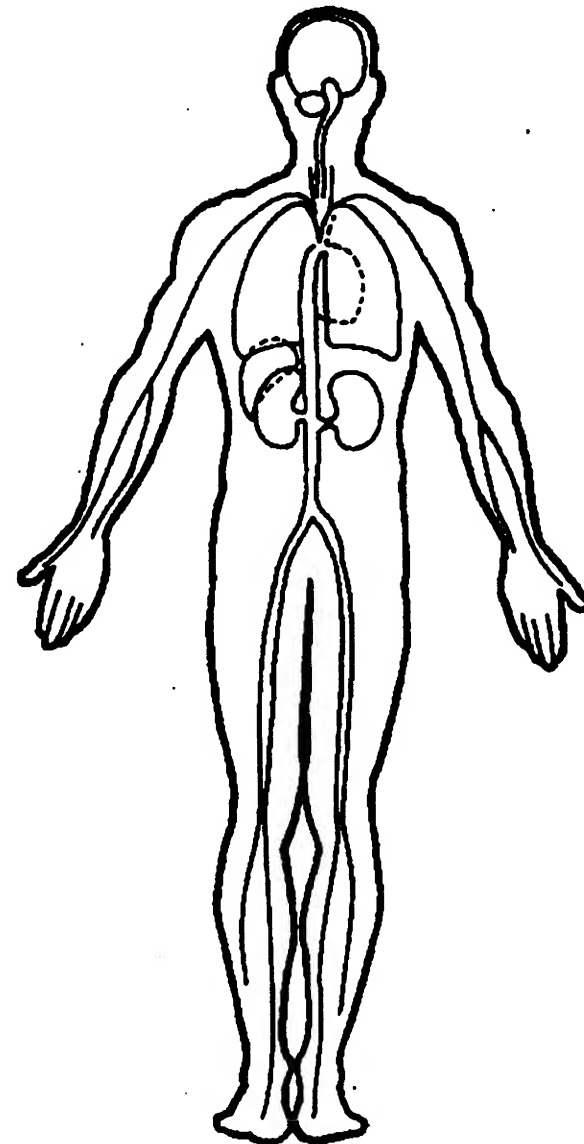
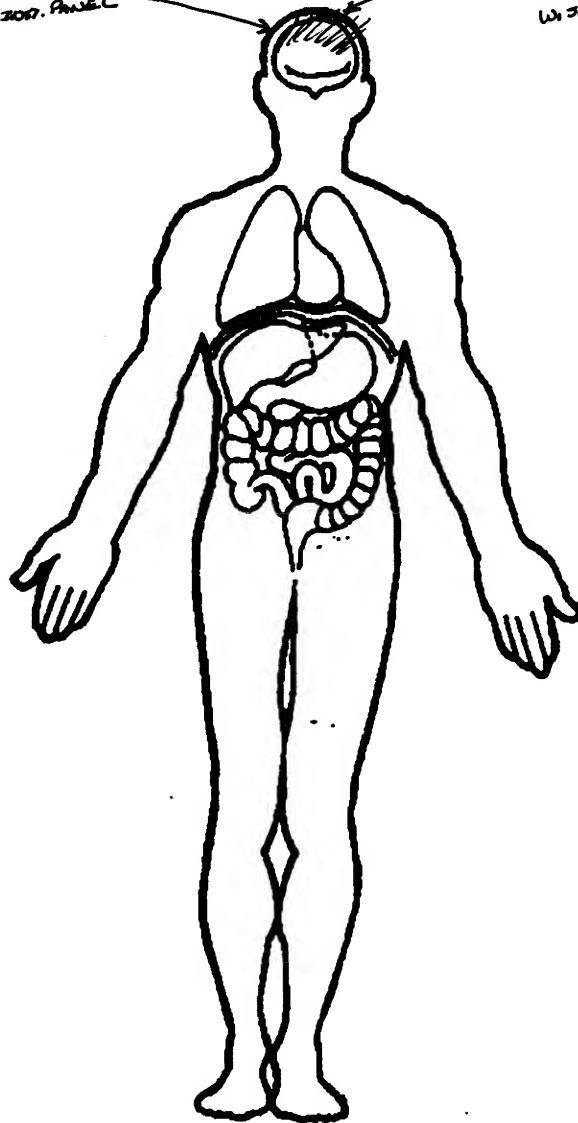
## OFFICIAL INJURY DATA — INTERNAL INJURIES

BEST AVAILABLE COPY

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

CONTUSION (BILATERAL)  
CEREBRUM NFS  
W. SHIELD / A. P. LAR / L. JUST. PANEL

DIFFUSE AXONAL INJURY (SHEARING)  
CEREBRUM  
W. SHIELD / A. P. LAR / L. JUST. PANEL





National Highway Traffic Safety  
Administration

## OCCUPANT ASSESSMENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## OCCUPANT'S SEATING

1. Primary Sampling Unit Number \_\_\_\_\_
2. Case Number - Stratum D 5 I-94-AB-015
3. Vehicle Number 01
4. Occupant Number 02

## OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 17  
Code actual age at time of accident.  
(00) Less than one year old (specify by month): \_\_\_\_\_  
(97) 97 years and older \_\_\_\_\_  
(99) Unknown
6. Occupant's Sex 1  
(1) Male  
(2) Female  
(9) Unknown
7. Occupant's Height 178  
Code actual height to the nearest centimeter.  
(999) Unknown  
70 inches X 2.54 = 178 centimeters
8. Occupant's Weight 168  
Code actual weight to the nearest kilogram.  
(999) Unknown  
150 pounds X .4536 = 68 kilograms
9. Occupant's Role 2  
(1) Driver  
(2) Passenger  
(9) Unknown

10. Occupant's Seat Position 13  
*Front Seat*  
(11) Left side  
(12) Middle  
(13) Right side  
(14) Other (specify): \_\_\_\_\_  
(15) On or in the lap of another occupant

- Second Seat*  
(21) Left side  
(22) Middle  
(23) Right side  
(24) Other (specify): \_\_\_\_\_  
(25) On or in the lap of another occupant

- Third Seat*  
(31) Left side  
(32) Middle  
(33) Right side  
(34) Other (specify): \_\_\_\_\_  
(35) On or in the lap of another occupant

- Fourth Seat*  
(41) Left side  
(42) Middle  
(43) Right side  
(44) Other (specify): \_\_\_\_\_  
(45) On or in the lap of another occupant  
(97) In or on unenclosed area  
(98) Other seat (specify): \_\_\_\_\_  
(99) Unknown

11. Occupant's Posture 0  
(0) Normal posture  
*Abnormal posture*  
(1) Kneeling or standing on seat  
(2) Lying on or across seat  
(3) Kneeling, standing or sitting in front of seat  
(4) Sitting sideways or turned to talk with another occupant or to look out a rear window  
(5) Sitting on a console  
(6) Lying back in a reclined seat position  
(7) Bracing with feet or hands on a surface in front of seat  
(8) Other abnormal posture (specify): \_\_\_\_\_  
(9) Unknown

## EJECTION/ENTRAPMENT

12. Ejection    $\phi$   

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area    $\phi$   

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_
- (9) Unknown

14. Ejection Medium    $\phi$   

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): \_\_\_\_\_
- (5) Integral structure
- (8) Other medium (specify): \_\_\_\_\_
- (9) Unknown

15. Medium Status (Immediately Prior To Impact)    $\phi$   

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment    $\phi$   

- (NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)
- (0) Not entrapped
  - (1) Entrapped
  - (9) Unknown

## National Accident Sampling System-Crashworthiness Data System: Occupant Assessment Form

Page 3

## RESTRAINT SYSTEM EVALUATION

17. Manual (Active) Belt System Availability 3

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

18. Manual (Active) Belt System Use 3

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): \_\_\_\_\_

(02) Shoulder belt \_\_\_\_\_

(03) Lap belt \_\_\_\_\_

(04) Lap and shoulder belt \_\_\_\_\_

(05) Belt used—type unknown \_\_\_\_\_

(08) Other belt used (specify): \_\_\_\_\_

(12) Shoulder belt used with child safety seat \_\_\_\_\_

(13) Lap belt used with child safety seat \_\_\_\_\_

(14) Lap and shoulder belt used with child safety seat \_\_\_\_\_

(15) Belt used with child safety seat—type unknown \_\_\_\_\_

(18) Other belt used with child safety seat (specify): \_\_\_\_\_

(99) Unknown if belt used \_\_\_\_\_

19. Proper Use of Manual (Active) Belts 1

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

20. Manual (Active) Belt Failure Modes During Accident 1

- (0) No manual belt used
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

(6) Broken retractor \_\_\_\_\_

(7) Combination of above (specify): \_\_\_\_\_

(8) Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

21. Air Bag System Availability/Function 0

- (0) Not equipped/not available
- (1) Air bag

*Non-functional*

(2) Air bag disconnected (specify): \_\_\_\_\_

(3) Air bag not reinstalled \_\_\_\_\_

(9) Unknown \_\_\_\_\_

22. Air Bag System Deployment 0

- (0) Not equipped/not available
- (1) Air bag deployed during accident (as a result of impact)
- (2) Air bag deployed inadvertently just prior to accident
- (3) Air bag deployed, accident sequence undetermined
- (4) Nondeployed
- (5) Unknown if deployed
- (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (9) Unknown

23. Are There Indications of Air Bag System Failure? 0

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

Note: See Variables 44 through 48 (Page 5) for Information on Automatic Belts

24. Police Reported Restraint Use 4

- (0) None used
- (1) Police did not indicate restraint use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify): \_\_\_\_\_
- (8) Restrained, type unknown \_\_\_\_\_
- (9) Police indicated "unknown"

## National Accident Sampling System-Crashworthiness Data System: Occupant Assessment Form

Page 4

## HEAD RESTRAINT AND SEAT EVALUATION

25. Head Restraint Type/Damage by Occupant at This Occupant Position 3

- (0) No head restraints
- (1) Integral—no damage
- (2) Integral—damaged during accident
- (3) Adjustable—no damage
- (4) Adjustable—damaged during accident
- (5) Add-on—no damage
- (6) Add-on—damaged during accident
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown

26. Seat Type (this Occupant Position) ~~4~~ 2

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify): \_\_\_\_\_
- (10) Box mounted seat (i.e., van type)
- (99) Unknown

27. Seat Performance (this Occupant Position) 5

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed (specify): \_\_\_\_\_
- (4) Seat track/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): \_\_\_\_\_
- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown

## CHILD SAFETY SEAT

28. Child Safety Seat Make/Model    $\phi$    $\phi$    $\phi$     
 (000) No child safety seat  
 Applicable codes are found in your NASS CDS  
 Data Collection, Coding and Editing  
 (950) Built-in child safety seat  
 (997) Other make/model (specify):  
 \_\_\_\_\_  
 (998) Unknown make/model  
 (999) Unknown if child safety seat used

29. Type of Child Safety Seat    $\phi$     
 (0) No child safety seat  
 (1) Infant seat  
 (2) Toddler seat  
 (3) Convertible seat  
 (4) Booster seat  
 (7) Other type child safety seat (specify):  
 \_\_\_\_\_  
 (8) Unknown child safety seat type  
 (9) Unknown if child safety seat used

30. Child Safety Seat Orientation    $\phi$    $\phi$     
 (00) No child safety seat  
  
*Designed for Rear Facing for This Age/Weight*  
 (01) Rear facing  
 (02) Forward facing  
 (08) Other orientation (specify):  
 \_\_\_\_\_  
 (09) Unknown orientation  
  
*Designed For Forward Facing for This Age/Weight*  
 (11) Rear facing  
 (12) Forward facing  
 (18) Other orientation (specify):  
 \_\_\_\_\_  
 (19) Unknown orientation  
  
*Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*  
 (21) Rear facing  
 (22) Forward facing  
 (28) Other orientation (specify):  
 \_\_\_\_\_  
 (29) Unknown orientation  
  
 (99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage    $\phi$    $\phi$     
  
 32. Child Safety Seat Shield Usage    $\phi$    $\phi$     
  
 33. Child Safety Seat Tether Usage    $\phi$    $\phi$   

Note: Options below applicable to  
 Variables OA31-OA33.  
 (00) No child safety seat

*Not Designed With Harness/Shield/Tether*  
 (01) After market harness/shield/tether  
 added, not used  
 (02) After market harness/shield/tether used  
 (03) Child safety seat used, but no after market  
 harness/shield/tether added  
 (09) Unknown if harness/shield/tether  
 added or used

*Designed With Harness/Shield/Tether*  
 (11) Harness/shield/tether not used  
 (12) Harness/shield/tether used  
 (19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*  
 (21) Harness/shield/tether not used  
 (22) Harness/shield/tether used  
 (29) Unknown if harness/shield/tether used  
  
 (99) Unknown if child safety seat used



**INJURY CONSEQUENCES**34. Injury Severity (Police Rating) 2

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

35. Treatment - Mortality 4

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):  
\_\_\_\_\_

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (8) Treatment - other (specify):  
\_\_\_\_\_
- (9) Unknown

36. Type Of Medical Facility (for Initial Treatment) 2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):  
\_\_\_\_\_
- (9) Unknown

37. Hospital Stay φ φ

- (00) Not Hospitalized
- \_\_\_\_\_ Code the number of days (up through 60) that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

99. Case Occupant φ

- (0) Not Case Occupant
- (1) This is the Case Occupant
- (2) This is the Case Occupant in another case

38. Working Days Lost 9 7

- \_\_\_\_\_ Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

**STOP - GO TO VARIABLE 44 ON PAGE 7****VARIABLES 39 THROUGH 43 ARE COMPLETED BY THE ZONE CENTER**39. Time to Death φ φ

- \_\_\_\_\_ Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
- (00) Not fatal
- (96) Fatal - ruled disease
- (99) Unknown

40. 1st Medically Reported Cause of Death φ φ41. 2nd Medically Reported Cause of Death φ φ42. 3rd Medically Reported Cause of Death φ φ

- \_\_\_\_\_ Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
- (00) Not fatal or no additional causes
- (96) Mode of death given but specific injuries are not linked to cause of death. (specify):  
\_\_\_\_\_

(97) Other result (includes fatal ruled disease) (specify):  
\_\_\_\_\_

(99) Unknown

43. Number of Recorded Injuries for This Occupant φ 3

- \_\_\_\_\_ Code the actual number of injuries recorded for this occupant.
- (00) No recorded injuries
- (97) Injured, details unknown
- (99) Unknown if injured

**AUTOMATIC BELT SYSTEM****44. Automatic (Passive) Belt System Availability/Function** 1

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

**45. Automatic (Passive) Belt System Use** 1

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):

- (3) Automatic belt use unknown
- (9) Unknown

**46. Automatic (Passive) Belt System Type** 2

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

**47. Proper Use of Automatic (Passive) Belt System** 1

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of automatic belt system (specify):
- (9) Unknown

**48. Automatic (Passive) Belt Failure Modes During Accident** 1

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other automatic belt failure (specify):

- (9) Unknown

**49. Seat Orientation (this Occupant Position)** 1

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify):

- (9) Unknown

**Check the Primary Source Used In Determining Belt Use.**

- [ ] Not equipped/not available/destroyed or rendered inoperative
- ☒ Vehicle inspection
- [ ] Official injury data
- [ ] Driver/occupant interview
- [ ] Other (specify):

- [ ] Unknown if belt used

ARE ALL APPLICABLE MEDICAL RECORDS INCLUDED WITH INITIAL SUBMISSION?

NO ☒ YES [ ]

UPDATE CANDIDATE?

NO ☒ YES [ ]

**STOP - VARIABLES 50 THROUGH 53 ARE  
COMPLETED BY THE ZONE CENTER****TRAUMA DATA**

50. Glasgow Coma Scale (GCS) Score Ø 2  
(at Medical Facility)  
(00) Not injured  
(01) Injured - not treated at medical facility  
(02) No GCS Score at medical facility  
(03-15) Code the actual value of the  
initial GCS Score recorded at medical  
facility.  
(97) Injured, details unknown  
(99) Unknown if injured
51. Was the Occupant Given Blood? 1  
(1) No - blood not given  
(2) Yes - blood given  
(specify units): \_\_\_\_\_  
(9) Unknown if blood given
52. Arterial Blood Gases (ABG) -  $\text{HCO}_3$  Ø 1  
(00) Not injured  
(01) Injured, ABGs not measured or reported  
(02-50) Code the actual value of the  $\text{HCO}_3$   
(96) ABGs reported ,  $\text{HCO}_3$  unknown  
(97) Injured, details unknown  
(99) Unknown if injured

**BELT USE DETERMINATION**

53. Primary Source of Belt Use Determination 1  
(0) Not equipped/not available/destroyed  
or rendered inoperative  
(1) Vehicle inspection  
(2) Official injury data  
(3) Driver/occupant interview  
(8) Other (specify): \_\_\_\_\_  
(9) Unknown if belt used

U.S. Department of Transportation

Form Approved  
O.M.B. No. 2127-0021National Highway Traffic Safety  
Administration

## OCCUPANT INJURY FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number \_\_\_\_\_

3. Vehicle Number 012. Case Number - Stratum DSI-94-AB-0154. Occupant Number 02

## INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	Body Region	A.I.S. - 90			A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number	ICD-9
			Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury							
1st	5. <u>7</u>	6. <u>4</u>	7. <u>9</u>	8. <u>04</u>	9. <u>02</u>	10. <u>1</u>	11. <u>4</u>	12. <u>41</u>	13. <u>1</u>	14. <u>1</u>	15. <u>00</u>	<u>922.</u>
2nd	16. <u>7</u>	17. <u>5</u>	18. <u>9</u>	19. <u>04</u>	20. <u>02</u>	21. <u>1</u>	22. <u>1</u>	23. <u>41</u>	24. <u>1</u>	25. <u>1</u>	26. <u>00</u>	<u>924.0</u>
3rd	27. <u>7</u>	28. <u>5</u>	29. <u>9</u>	30. <u>04</u>	31. <u>02</u>	32. <u>1</u>	33. <u>2</u>	34. <u>41</u>	35. <u>1</u>	36. <u>1</u>	37. <u>00</u>	<u>924.01</u>
4th	38. ____	39. ____	40. ____	41. ____	42. ____	43. ____	44. ____	45. ____	46. ____	47. ____	48. ____	
5th	49. ____	50. ____	51. ____	52. ____	53. ____	54. ____	55. ____	56. ____	57. ____	58. ____	59. ____	
6th	60. ____	61. ____	62. ____	63. ____	64. ____	65. ____	66. ____	67. ____	68. ____	69. ____	70. ____	
7th	71. ____	72. ____	73. ____	74. ____	75. ____	76. ____	77. ____	78. ____	79. ____	80. ____	81. ____	
8th	82. ____	83. ____	84. ____	85. ____	86. ____	87. ____	88. ____	89. ____	90. ____	91. ____	92. ____	
9th	93. ____	94. ____	95. ____	96. ____	97. ____	98. ____	99. ____	100. ____	101. ____	102. ____	103. ____	
10th	104. ____	105. ____	106. ____	107. ____	108. ____	109. ____	110. ____	111. ____	112. ____	113. ____	114. ____	

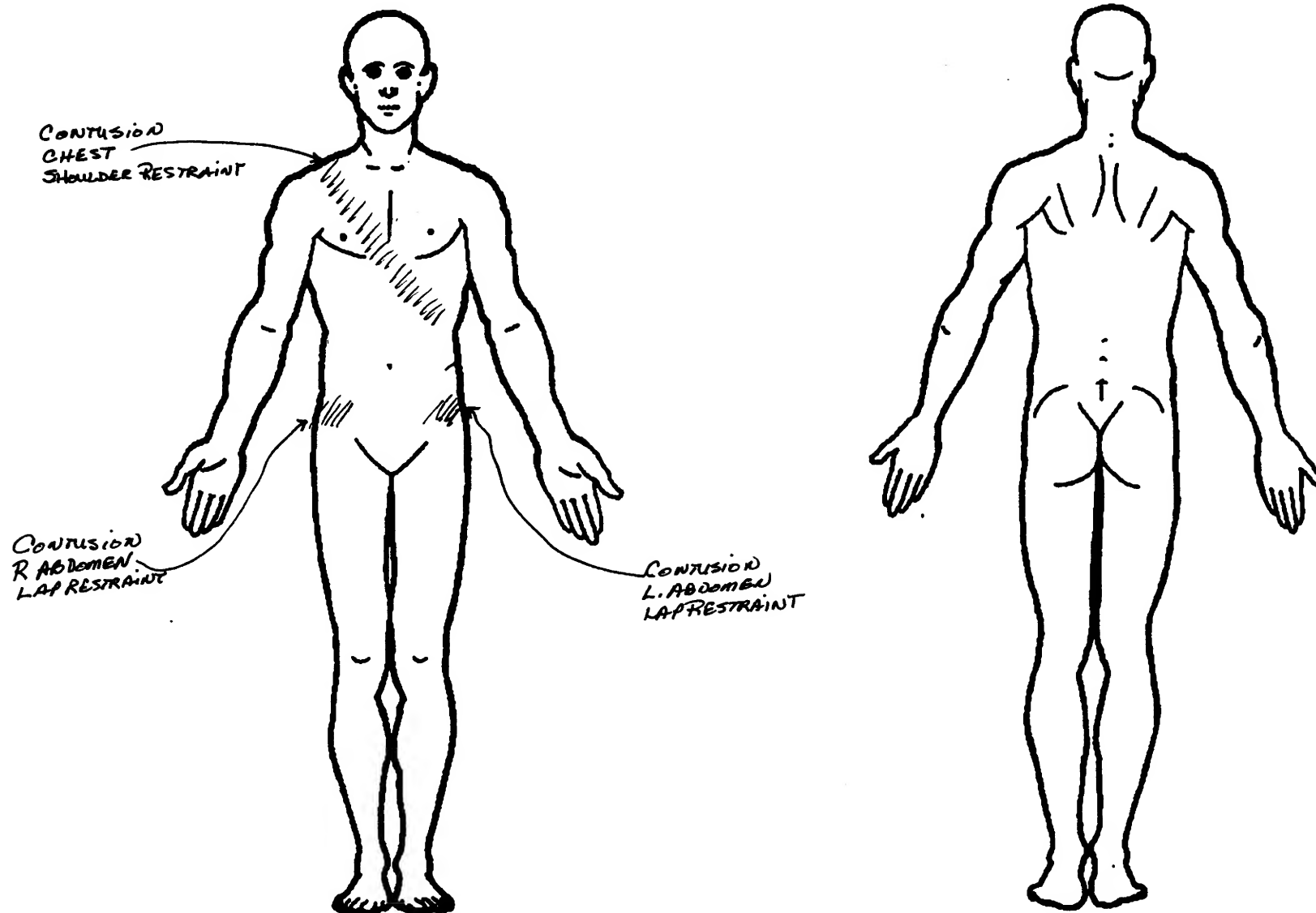
[illegible]



## OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

BEST AVAILABLE COPY

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



**SOURCE OF INJURY DATA****OFFICIAL**

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

**UNOFFICIAL**

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

**INJURY SOURCE****FRONT**

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (19) Other front object (specify): \_\_\_\_\_

**LEFT SIDE**

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-pillar
- (23) Left B-pillar
- (24) Other left pillar (specify): \_\_\_\_\_

- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (27) Other left side object (specify): \_\_\_\_\_
- (28) Left side window sill

**RIGHT SIDE**

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A (A1/A2)-pillar
- (33) Right B-pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (37) Other right side object (specify): \_\_\_\_\_

- (38) Right side window sill

**INTERIOR**

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar or door frame attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)
- (46) Other occupants (specify): \_\_\_\_\_
- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_
- (49) Other interior object (specify): \_\_\_\_\_

**ROOF**

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

**FLOOR**

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

**REAR**

- (60) Backlight (rear window)

- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

**EXTERIOR of OCCUPANT'S VEHICLE**

- (65) Hood
- (66) Outside hardware (e.g., outside mirror, antenna)
- (67) Other exterior surface or tires (specify): \_\_\_\_\_
- (68) Unknown exterior objects

**EXTERIOR OF OTHER MOTOR VEHICLE**

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify): \_\_\_\_\_

- (73) Hood
- (74) Hood ornament
- (75) Windshield, roof rail, A-pillar
- (76) Side surface
- (77) Side mirrors
- (78) Other side protrusions (specify): \_\_\_\_\_

- (79) Rear surface
- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify): \_\_\_\_\_

- (83) Unknown exterior of other motor vehicle

**OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT**

- (84) Ground
- (85) Other vehicle or object (specify): \_\_\_\_\_
- (86) Unknown vehicle or object

**NONCONTACT INJURY**

- (90) Fire in vehicle
- (91) Flying glass
- (92) Other noncontact injury source (specify): \_\_\_\_\_
- (93) Air bag exhaust gases
- (97) Injured, unknown source

**INJURY SOURCE CONFIDENCE LEVEL**

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

**DIRECT/INDIRECT INJURY**

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

**OCCUPANT INJURY CLASSIFICATION****Body Region**

- (1) Head
- (2) Face
- (3) Neck
- (4) Thorax
- (5) Abdomen
- (6) Spine
- (7) Upper Extremity
- (8) Lower Extremity
- (9) Unspecified

**Type of Anatomic Structure**

- (1) Whole Area
- (2) Vessels
- (3) Nerves
- (4) Organs (includes muscles/ligaments)
- (5) Skeletal (includes joints)
- (6) Head - LOC
- (9) Skin

**Specific Anatomic Structure****Whole Area**

- (02) Skin - Abrasion
- (04) Skin - Contusion
- (06) Skin - Laceration
- (08) Skin - Avulsion
- (10) Amputation
- (20) Burn
- (30) Crush
- (40) Degloving
- (50) Injury - NFS
- (90) Trauma, other than mechanical

**Head - LOC**

- (02) Length of LOC
- (04, 06, 08) Level of Consciousness
- (10) Concussion

**Spine**

- (02) Cervical
- (04) Thoracic
- (06) Lumbar

Vessels, Nerves, Organs, Bones,  
Joints are assigned consecutive two digit numbers beginning with 02

**Level of Injury**

Specific injuries are assigned consecutive two-digit numbers beginning with 02.

To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.

**Abbreviated Injury Scale**

- (1) Minor injury
- (2) Moderate injury
- (3) Serious injury
- (4) Severe injury
- (5) Critical injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity

**Aspect**

- (1) Right
- (2) Left
- (3) Bilateral
- (4) Central
- (5) Anterior
- (6) Posterior
- (7) Superior
- (8) Inferior
- (9) Unknown
- (0) Whole region

# OFFICIAL INJURY DATA — SKELETAL INJURIES

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Restrained?

☐ No

☐ Yes

Blood Alcohol Level  
(mg/dl)

BAL = \_\_\_\_

Glasgow Coma  
Scale Score

GCSS = \_\_\_\_

Units of Blood  
Given

Units = \_\_\_\_

Arterial Blood Gases

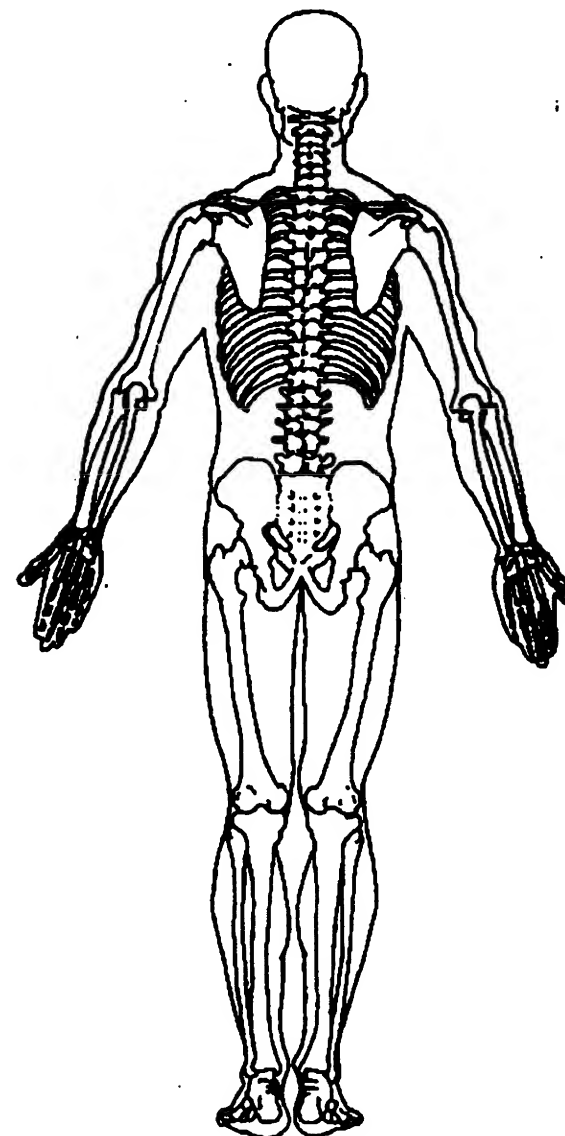
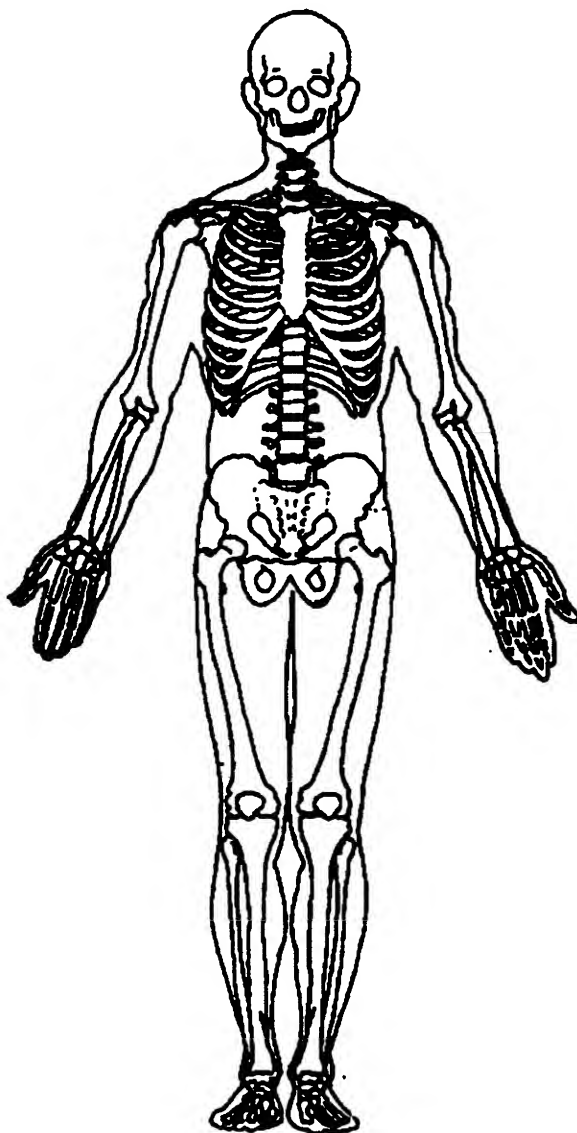
pH = \_\_\_\_

PO<sub>2</sub> = \_\_\_\_

PCO<sub>2</sub> = \_\_\_\_

HCO<sub>3</sub> = \_\_\_\_

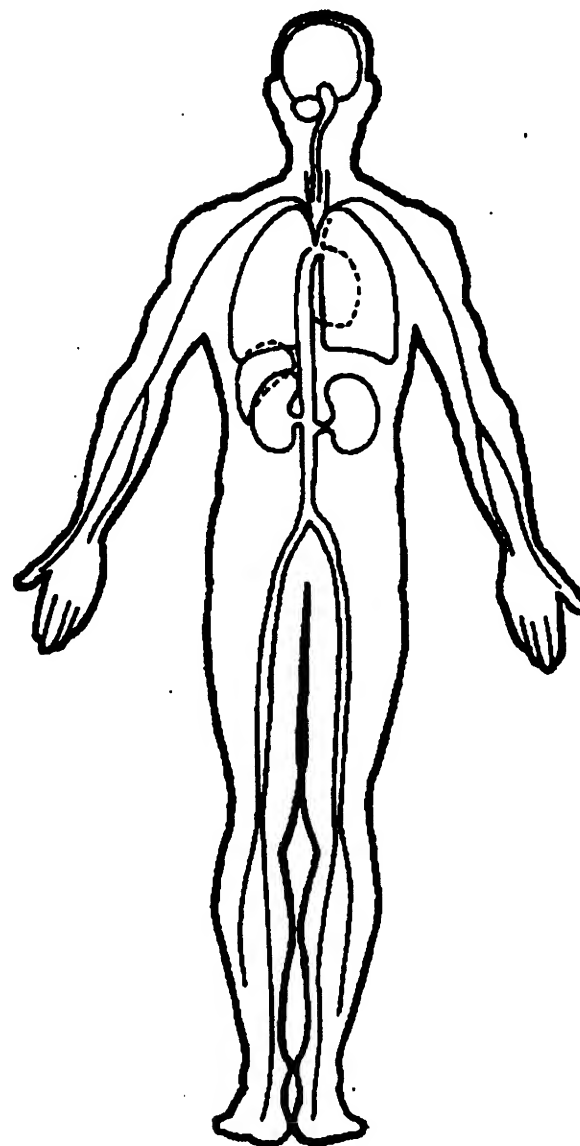
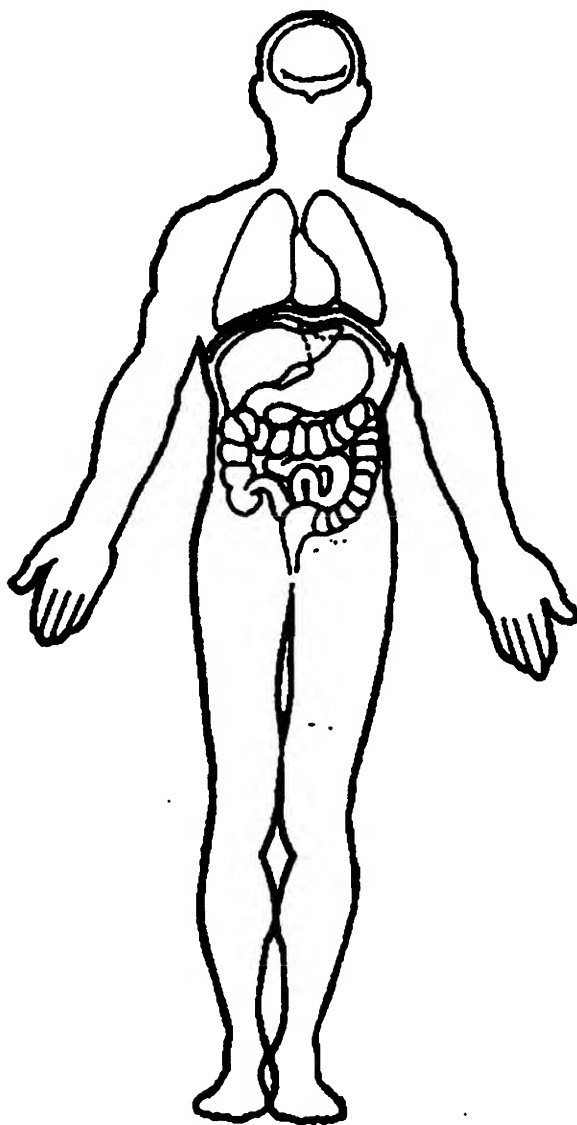
Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



## OFFICIAL INJURY DATA — INTERNAL INJURIES

BEST AVAILABLE COPY

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



National Highway Traffic Safety  
Administration

## OCCUPANT ASSESSMENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## OCCUPANT'S SEATING

1. Primary Sampling Unit Number \_\_\_\_\_
2. Case Number - Stratum DSI-94-AB-015
3. Vehicle Number 01
4. Occupant Number 03

## OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 20  
Code actual age at time of accident.  
(00) Less than one year old (specify by month):  
  
(97) 97 years and older  
(99) Unknown
6. Occupant's Sex 2  
(1) Male  
(2) Female  
(9) Unknown
7. Occupant's Height 168  
Code actual height to the nearest  
centimeter.  
(999) Unknown  
  
66 inches X 2.54 = 168 centimeters
8. Occupant's Weight 157  
Code actual weight to the nearest  
kilogram.  
(999) Unknown  
  
125 pounds X .4536 = 57 kilograms
9. Occupant's Role 2  
(1) Driver  
(2) Passenger  
(9) Unknown

10. Occupant's Seat Position 23  
*Front Seat*  
(11) Left side  
(12) Middle  
(13) Right side  
(14) Other (specify): \_\_\_\_\_  
(15) On or in the lap of another occupant
- Second Seat*  
(21) Left side  
(22) Middle  
(23) Right side  
(24) Other (specify): \_\_\_\_\_  
(25) On or in the lap of another occupant
- Third Seat*  
(31) Left side  
(32) Middle  
(33) Right side  
(34) Other (specify): \_\_\_\_\_  
(35) On or in the lap of another occupant
- Fourth Seat*  
(41) Left side  
(42) Middle  
(43) Right side  
(44) Other (specify): \_\_\_\_\_  
(45) On or in the lap of another occupant
- (97) In or on unenclosed area  
(98) Other seat (specify): \_\_\_\_\_  
(99) Unknown
11. Occupant's Posture 9  
(0) Normal posture
- Abnormal posture*  
(1) Kneeling or standing on seat  
(2) Lying on or across seat  
(3) Kneeling, standing or sitting in front of seat  
(4) Sitting sideways or turned to talk with another occupant or to look out a rear window  
(5) Sitting on a console  
(6) Lying back in a reclined seat position  
(7) Bracing with feet or hands on a surface in front of seat  
(8) Other abnormal posture (specify): \_\_\_\_\_  
(9) Unknown



## EJECTION/ENTRAPMENT

12. Ejection φ

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area φ

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_
- (9) Unknown

14. Ejection Medium φ

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): \_\_\_\_\_
- (5) Integral structure
- (8) Other medium (specify): \_\_\_\_\_
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) φ

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment φ

(NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)

- (0) Not entrapped
- (1) Entrapped
- (9) Unknown

## National Accident Sampling System-Crashworthiness Data System: Occupant Assessment Form

Page 3

## RESTRAINT SYSTEM EVALUATION

17. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

18. Manual (Active) Belt System Use φ φ

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): \_\_\_\_\_

(02) Shoulder belt \_\_\_\_\_

(03) Lap belt \_\_\_\_\_

(04) Lap and shoulder belt \_\_\_\_\_

(05) Belt used—type unknown \_\_\_\_\_

(08) Other belt used (specify): \_\_\_\_\_

(12) Shoulder belt used with child safety seat \_\_\_\_\_

(13) Lap belt used with child safety seat \_\_\_\_\_

(14) Lap and shoulder belt used with child safety seat \_\_\_\_\_

(15) Belt used with child safety seat—type unknown \_\_\_\_\_

(18) Other belt used with child safety seat (specify): \_\_\_\_\_

(99) Unknown if belt used \_\_\_\_\_

19. Proper Use of Manual (Active) Belts φ

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

20. Manual (Active) Belt Failure Modes During Accident φ

- (0) No manual belt used
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

(6) Broken retractor \_\_\_\_\_

(7) Combination of above (specify): \_\_\_\_\_

(8) Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

21. Air Bag System Availability/Function φ

- (0) Not equipped/not available
- (1) Air bag

*Non-functional*

(2) Air bag disconnected (specify): \_\_\_\_\_

(3) Air bag not reinstalled \_\_\_\_\_

(9) Unknown \_\_\_\_\_

22. Air Bag System Deployment φ

- (0) Not equipped/not available
- (1) Air bag deployed during accident (as a result of impact)
- (2) Air bag deployed inadvertently just prior to accident
- (3) Air bag deployed, accident sequence undetermined
- (4) Nondeployed
- (5) Unknown if deployed
- (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (9) Unknown

23. Are There Indications of Air Bag System Failure? φ

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

Note: See Variables 44 through 48 (Page 5) for Information on Automatic Belts

24. Police Reported Restraint Use φ

- (0) None used
- (1) Police did not indicate restraint use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify): \_\_\_\_\_

(8) Restrained, type unknown \_\_\_\_\_

(9) Police indicated "unknown" \_\_\_\_\_

## National Accident Sampling System-Crashworthiness Data System: Occupant Assessment Form

Page 4

## HEAD RESTRAINT AND SEAT EVALUATION

25. Head Restraint Type/Damage by Occupant at This Occupant Position

0

- (0) No head restraints
- (1) Integral—no damage
- (2) Integral—damaged during accident
- (3) Adjustable—no damage
- (4) Adjustable—damaged during accident
- (5) Add-on—no damage
- (6) Add-on—damaged during accident
- (8) Other (specify):

(9) Unknown

26. Seat Type (this Occupant Position)

0 5

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify):

(10) Box mounted seat (i.e., van type)

(99) Unknown

27. Seat Performance (this Occupant Position)

8

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed  
(specify): FOLDING LOCKS DISENGAGED AND  
BOTTOM LEFT PIVOT DISENGAGED
- (4) Seat track/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion  
(specify): RIGHT "B" PILLAR

(7) Combination of above (specify):

(8) Other (specify):

3 AND 6

(9) Unknown

## CHILD SAFETY SEAT

28. Child Safety Seat Make/Model    $\phi$    $\phi$    $\phi$     
 (000) No child safety seat  
 Applicable codes are found in your NASS CDS  
 Data Collection, Coding and Editing  
 (950) Built-in child safety seat  
 (997) Other make/model (specify):  
 \_\_\_\_\_  
 (998) Unknown make/model  
 (999) Unknown if child safety seat used

29. Type of Child Safety Seat    $\phi$     
 (0) No child safety seat  
 (1) Infant seat  
 (2) Toddler seat  
 (3) Convertible seat  
 (4) Booster seat  
 (7) Other type child safety seat (specify):  
 \_\_\_\_\_  
 (8) Unknown child safety seat type  
 (9) Unknown if child safety seat used

30. Child Safety Seat Orientation    $\phi$    $\phi$     
 (00) No child safety seat  
  
*Designed for Rear Facing for This Age/Weight*  
 (01) Rear facing  
 (02) Forward facing  
 (08) Other orientation (specify):  
 \_\_\_\_\_  
 (09) Unknown orientation  
  
*Designed For Forward Facing for This Age/Weight*  
 (11) Rear facing  
 (12) Forward facing  
 (18) Other orientation (specify):  
 \_\_\_\_\_  
 (19) Unknown orientation  
  
*Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*  
 (21) Rear facing  
 (22) Forward facing  
 (28) Other orientation (specify):  
 \_\_\_\_\_  
 (29) Unknown orientation  
  
 (99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage    $\phi$    $\phi$   

32. Child Safety Seat Shield Usage    $\phi$    $\phi$   

33. Child Safety Seat Tether Usage    $\phi$    $\phi$   

Note: Options below applicable to  
 Variables OA31-OA33.  
 (00) No child safety seat

*Not Designed With Harness/Shield/Tether*

(01) After market harness/shield/tether  
 added, not used  
 (02) After market harness/shield/tether used  
 (03) Child safety seat used, but no after market  
 harness/shield/tether added  
 (09) Unknown if harness/shield/tether  
 added or used

*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used  
 (12) Harness/shield/tether used  
 (19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

(21) Harness/shield/tether not used  
 (22) Harness/shield/tether used  
 (29) Unknown if harness/shield/tether used  
  
 (99) Unknown if child safety seat used

## National Accident Sampling System-Crashworthiness Data System: Occupant Assessment Form

Page 6

**INJURY CONSEQUENCES**34. Injury Severity (Police Rating) 2

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

35. Treatment - Mortality 4

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):  
\_\_\_\_\_

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (8) Treatment - other (specify):  
\_\_\_\_\_
- (9) Unknown

36. Type Of Medical Facility (for Initial Treatment) 2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):  
\_\_\_\_\_
- (9) Unknown

37. Hospital Stay 0 0

- (00) Not Hospitalized
- \_\_\_\_\_ Code the number of days (up through 60) that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

99. Case Occupant 0

- (0) Not Case Occupant
- (1) This is the Case Occupant
- (2) This is the Case Occupant in another case

38. Working Days Lost 9 7

- \_\_\_\_\_ Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

**STOP - GO TO VARIABLE 44 ON PAGE 7****VARIABLES 39 THROUGH 43 ARE COMPLETED BY THE ZONE CENTER**39. Time to Death 0 0

- \_\_\_\_\_ Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
- (00) Not fatal
- (96) Fatal - ruled disease
- (99) Unknown

40. 1st Medically Reported Cause of Death 0 041. 2nd Medically Reported Cause of Death 0 042. 3rd Medically Reported Cause of Death 0 0

- \_\_\_\_\_ Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
- (00) Not fatal or no additional causes
- (96) Mode of death given but specific injuries are not linked to cause of death. (specify):  
\_\_\_\_\_

(97) Other result (includes fatal ruled disease) (specify):  
\_\_\_\_\_

(99) Unknown

43. Number of Recorded Injuries for This Occupant 0 2

- \_\_\_\_\_ Code the actual number of injuries recorded for this occupant.
- (00) No recorded injuries
- (97) Injured, details unknown
- (99) Unknown if injured



## National Accident Sampling System-Crashworthiness Data System: Occupant Assessment Form

Page 7

**AUTOMATIC BELT SYSTEM**44. Automatic (Passive) Belt System Availability/ Function φ

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

45. Automatic (Passive) Belt System Use φ

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify): \_\_\_\_\_

- (3) Automatic belt use unknown
- (9) Unknown

46. Automatic (Passive) Belt System Type φ

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

47. Proper Use of Automatic (Passive) Belt System φ

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

- (8) Other improper use of automatic belt system (specify): \_\_\_\_\_
- (9) Unknown

48. Automatic (Passive) Belt Failure Modes During Accident φ

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

- (6) Broken retractor
- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other automatic belt failure (specify): \_\_\_\_\_

- (9) Unknown

49. Seat Orientation (this Occupant Position) 1

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify): \_\_\_\_\_

- (9) Unknown

## Check the Primary Source Used In Determining Belt Use.

- [ ] Not equipped/not available/destroyed or rendered inoperative
- ☒ Vehicle inspection
- [ ] Official injury data
- [ ] Driver/occupant interview
- [ ] Other (specify): \_\_\_\_\_

- [ ] Unknown if belt used

ARE ALL APPLICABLE MEDICAL RECORDS INCLUDED WITH INITIAL SUBMISSION?

NO ☒ YES [ ]

UPDATE CANDIDATE?

NO ☒ YES [ ]

**STOP - VARIABLES 50 THROUGH 53 ARE COMPLETED BY THE ZONE CENTER**

### TRAUMA DATA

50. Glasgow Coma Scale (GCS) Score Ø 2  
 (at Medical Facility)  
 (00) Not injured  
 (01) Injured - not treated at medical facility  
 (02) No GCS Score at medical facility  
 (03-15) Code the actual value of the initial GCS Score recorded at medical facility.  
 (97) Injured, details unknown  
 (99) Unknown if injured
51. Was the Occupant Given Blood? 1  
 (1) No - blood not given  
 (2) Yes - blood given  
 (specify units): \_\_\_\_\_  
 (9) Unknown if blood given
52. Arterial Blood Gases (ABG) -  $\text{HCO}_3$  Ø 1  
 (00) Not injured  
 (01) Injured, ABGs not measured or reported  
 (02-50) Code the actual value of the  $\text{HCO}_3$   
 (96) ABGs reported,  $\text{HCO}_3$  unknown  
 (97) Injured, details unknown  
 (99) Unknown if injured

### BELT USE DETERMINATION

53. Primary Source of Belt Use Determination 1  
 (0) Not equipped/not available/destroyed or rendered inoperative  
 (1) Vehicle inspection  
 (2) Official injury data  
 (3) Driver/occupant interview  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown if belt used

U.S. Department of Transportation

Form Approved  
O.M.B. No. 2127-0021National Highway Traffic Safety  
Administration

## OCCUPANT INJURY FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number \_\_\_\_\_

3. Vehicle Number 01

2. Case Number - Stratum

DSI-94-AB-0154. Occupant Number 03

## INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

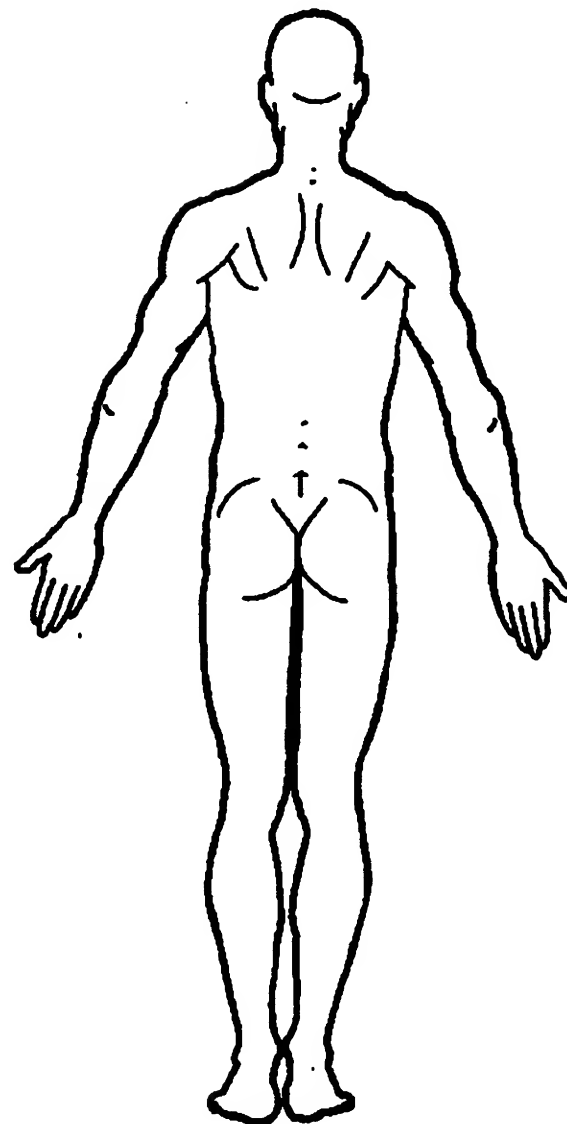
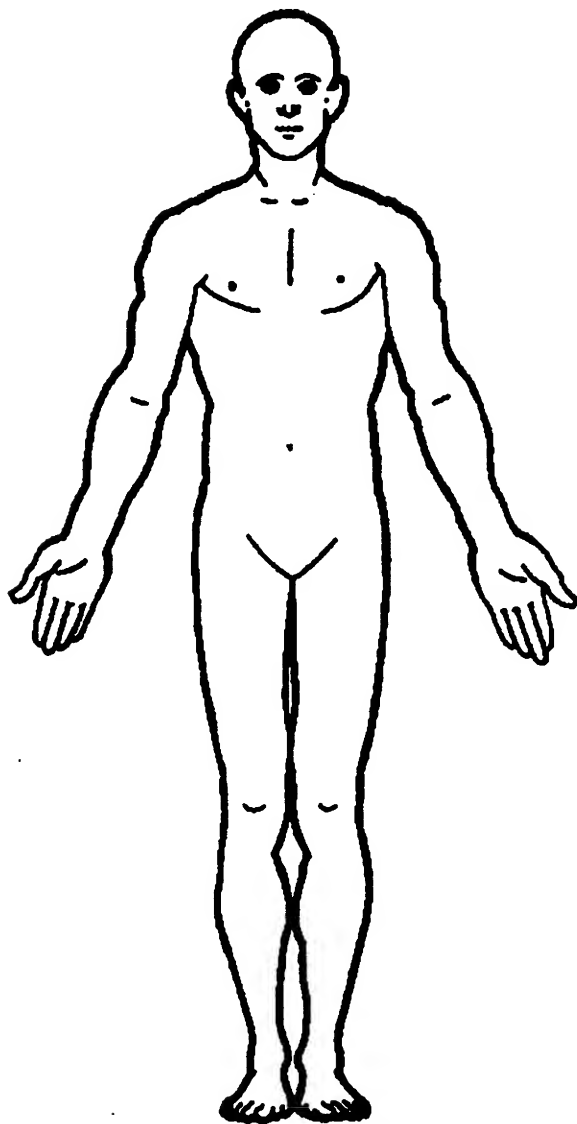
Source of Injury Data	Body Region	A.I.S. - 90		Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number	ICD-9	
		Type of Anatomic Structure	Specific Anatomic Structure									
1st	5. <u>7</u>	6. <u>7</u>	7. <u>5</u>	8. <u>32</u>	9. <u>02</u>	10. <u>2</u>	11. <u>2</u>	12. <u>40</u>	13. <u>1</u>	14. <u>1</u>	15. <u>00</u>	<u>813.43</u>
2nd	16. <u>7</u>	17. <u>8</u>	18. <u>5</u>	19. <u>02</u>	20. <u>06</u>	21. <u>1</u>	22. <u>2</u>	23. <u>49</u>	24. <u>1</u>	25. <u>1</u>	26. <u>00</u>	<u>845.09</u>
3rd	27. _____	28. _____	29. _____	30. _____	31. _____	32. _____	33. _____	34. _____	35. _____	36. _____	37. _____	
4th	38. _____	39. _____	40. _____	41. _____	42. _____	43. _____	44. _____	45. _____	46. _____	47. _____	48. _____	
5th	49. _____	50. _____	51. _____	52. _____	53. _____	54. _____	55. _____	56. _____	57. _____	58. _____	59. _____	
6th	60. _____	61. _____	62. _____	63. _____	64. _____	65. _____	66. _____	67. _____	68. _____	69. _____	70. _____	
7th	71. _____	72. _____	73. _____	74. _____	75. _____	76. _____	77. _____	78. _____	79. _____	80. _____	81. _____	
8th	82. _____	83. _____	84. _____	85. _____	86. _____	87. _____	88. _____	89. _____	90. _____	91. _____	92. _____	
9th	93. _____	94. _____	95. _____	96. _____	97. _____	98. _____	99. _____	100. _____	101. _____	102. _____	103. _____	
10th	104. _____	105. _____	106. _____	107. _____	108. _____	109. _____	110. _____	111. _____	112. _____	113. _____	114. _____	

		A.I.S. - 90						Injury Source Confidence Level	Direct/Indirect Injury	Occupant Area Intrusion Number	ICD-9
	Source of Injury Data	Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source			
11th	---	---	---	----	---	---	---	---	---	---	
12th	---	---	---	----	---	---	---	---	---	---	
13th	---	---	---	----	---	---	---	---	---	---	
4th	---	---	---	----	---	---	---	---	---	---	
5th	---	---	---	----	---	---	---	---	---	---	
6th	---	---	---	----	---	---	---	---	---	---	
7th	---	---	---	----	---	---	---	---	---	---	
8th	---	---	---	----	---	---	---	---	---	---	
9th	---	---	---	----	---	---	---	---	---	---	
0th	---	---	---	----	---	---	---	---	---	---	
<1st	---	---	---	----	---	---	---	---	---	---	
22nd	---	---	---	----	---	---	---	---	---	---	
23rd	---	---	---	----	---	---	---	---	---	---	
24th	---	---	---	----	---	---	---	---	---	---	
25th	---	---	---	----	---	---	---	---	---	---	

## OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

BEST AVAILABLE COPY

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)





**SOURCE OF INJURY DATA****OFFICIAL**

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

**UNOFFICIAL**

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

**INJURY SOURCE****FRONT**

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (19) Other front object (specify): \_\_\_\_\_

**LEFT SIDE**

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-pillar
- (23) Left B-pillar
- (24) Other left pillar (specify): \_\_\_\_\_

- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (27) Other left side object (specify): \_\_\_\_\_

- (28) Left side window sill

**RIGHT SIDE**

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A (A1/A2)-pillar
- (33) Right B-pillar
- (34) Other right pillar (specify): \_\_\_\_\_

- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (37) Other right side object (specify): \_\_\_\_\_

- (38) Right side window sill

**INTERIOR**

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar or door frame attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)
- (46) Other occupants (specify): \_\_\_\_\_

- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_

- (49) Other interior object (specify): RIF SEAT CUSHION, LOWER BACK

**ROOF**

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

**FLOOR**

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

**REAR**

- (60) Backlight (rear window)

- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

**EXTERIOR OF OCCUPANT'S VEHICLE**

- (65) Hood
- (66) Outside hardware (e.g., outside mirror, antenna)
- (67) Other exterior surface or tires (specify): \_\_\_\_\_
- (68) Unknown exterior objects

**EXTERIOR OF OTHER MOTOR VEHICLE**

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify): \_\_\_\_\_

- (73) Hood
- (74) Hood ornament
- (75) Windshield, roof rail, A-pillar
- (76) Side surface
- (77) Side mirrors
- (78) Other side protrusions (specify): \_\_\_\_\_

- (79) Rear surface
- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify): \_\_\_\_\_

- (83) Unknown exterior of other motor vehicle

**OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT**

- (84) Ground
- (85) Other vehicle or object (specify): \_\_\_\_\_
- (86) Unknown vehicle or object

**NONCONTACT INJURY**

- (90) Fire in vehicle
- (91) Flying glass
- (92) Other noncontact injury source (specify): \_\_\_\_\_
- (93) Air bag exhaust gases
- (97) Injured, unknown source

**INJURY SOURCE CONFIDENCE LEVEL**

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

**DIRECT/INDIRECT INJURY**

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

**OCCUPANT INJURY CLASSIFICATION****Body Region**

- (1) Head
- (2) Face
- (3) Neck
- (4) Thorax
- (5) Abdomen
- (6) Spine
- (7) Upper Extremity
- (8) Lower Extremity
- (9) Unspecified

**Type of Anatomic Structure**

- (1) Whole Area
- (2) Vessels
- (3) Nerves
- (4) Organs (includes muscles/ligaments)
- (5) Skeletal (includes joints)
- (6) Head - LOC
- (9) Skin

**Specific Anatomic Structure****Whole Area**

- (02) Skin - Abrasion
- (04) Skin - Contusion
- (06) Skin - Laceration
- (08) Skin - Avulsion
- (10) Amputation
- (20) Burn
- (30) Crush
- (40) Degloving
- (50) Injury - NFS
- (90) Trauma, other than mechanical

**Head - LOC**

- (02) Length of LOC
- (04, 06, 08) Level of Consciousness
- (10) Concussion

**Spine**

- (02) Cervical
- (04) Thoracic
- (06) Lumbar

Vessels, Nerves, Organs, Bones, Joints are assigned consecutive two digit numbers beginning with 02

**Level of Injury**

Specific injuries are assigned consecutive two-digit numbers beginning with 02.

To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.

**Abbreviated Injury Scale**

- (1) Minor injury
- (2) Moderate injury
- (3) Serious injury
- (4) Severe injury
- (5) Critical injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity

**Aspect**

- (1) Right
- (2) Left
- (3) Bilateral
- (4) Central
- (5) Anterior
- (6) Posterior
- (7) Superior
- (8) Inferior
- (9) Unknown
- (0) Whole region

# OFFICIAL INJURY DATA — SKELETAL INJURIES

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Restrained?

☒ No

☐ Yes

Blood Alcohol Level  
(mg/dl)

BAL = /

Glasgow Coma  
Scale Score

GCSS = /

Units of Blood  
Given

Units = 0

Arterial Blood Gases

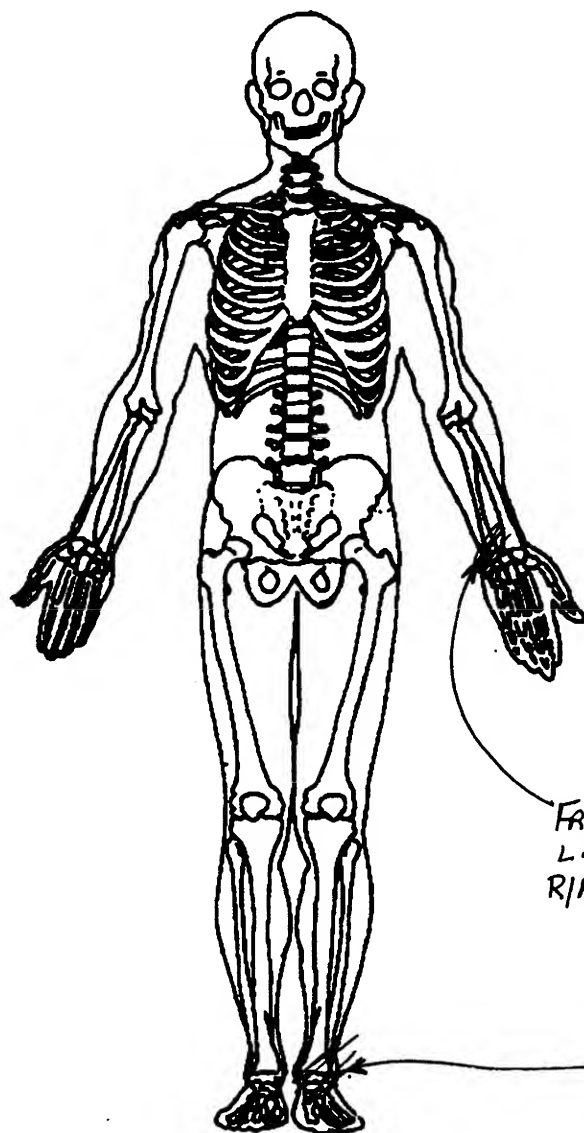
pH = /

PO<sub>2</sub> = /

PCO<sub>2</sub> = /

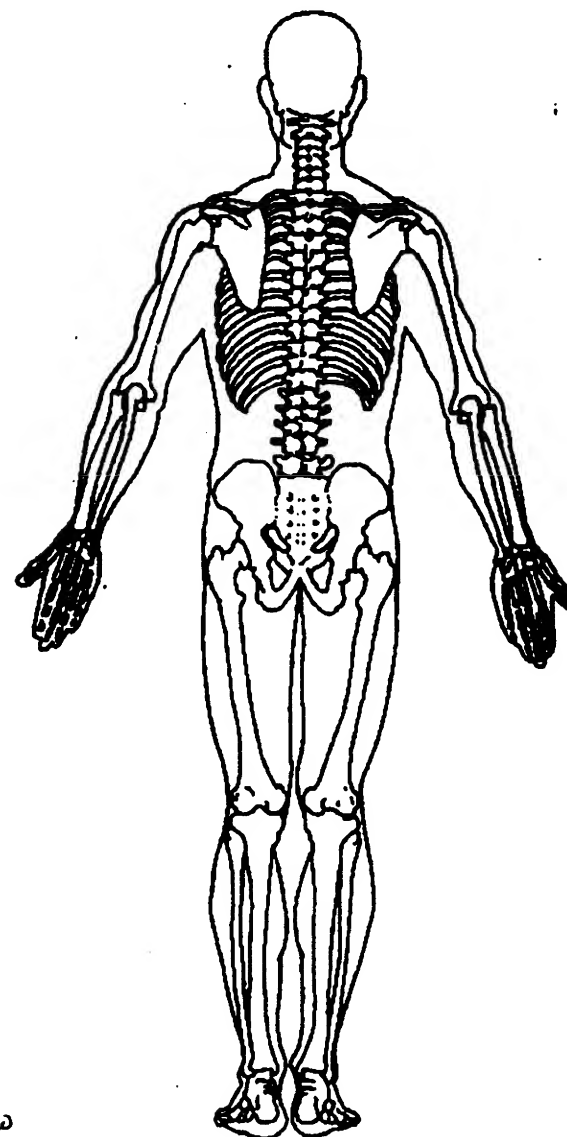
HCO<sub>3</sub> = /

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



FRACTURE  
L. WRIST  
R/F SEAT, BACK REST

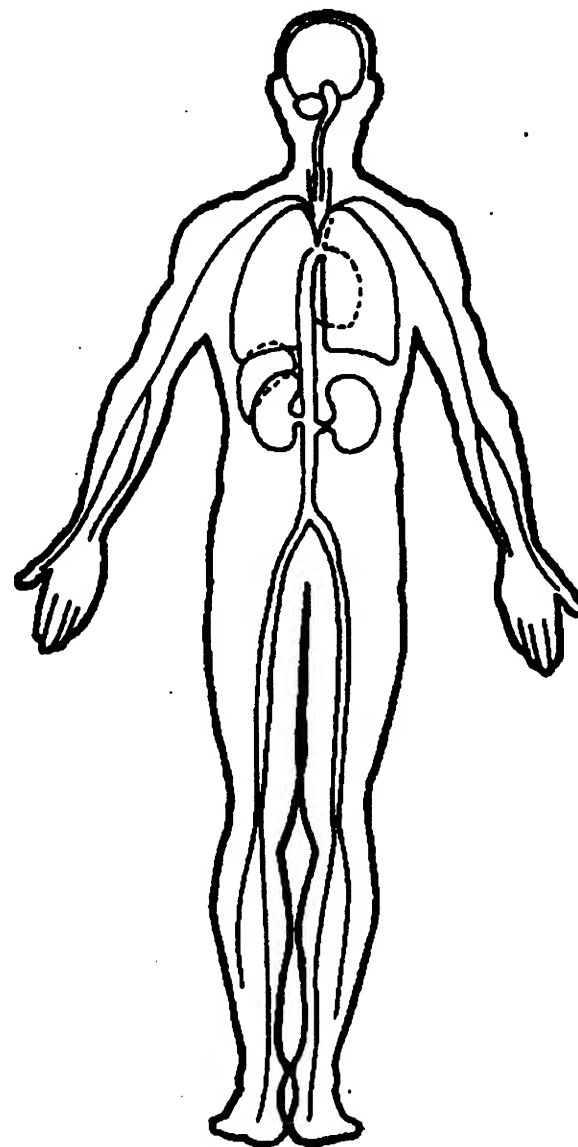
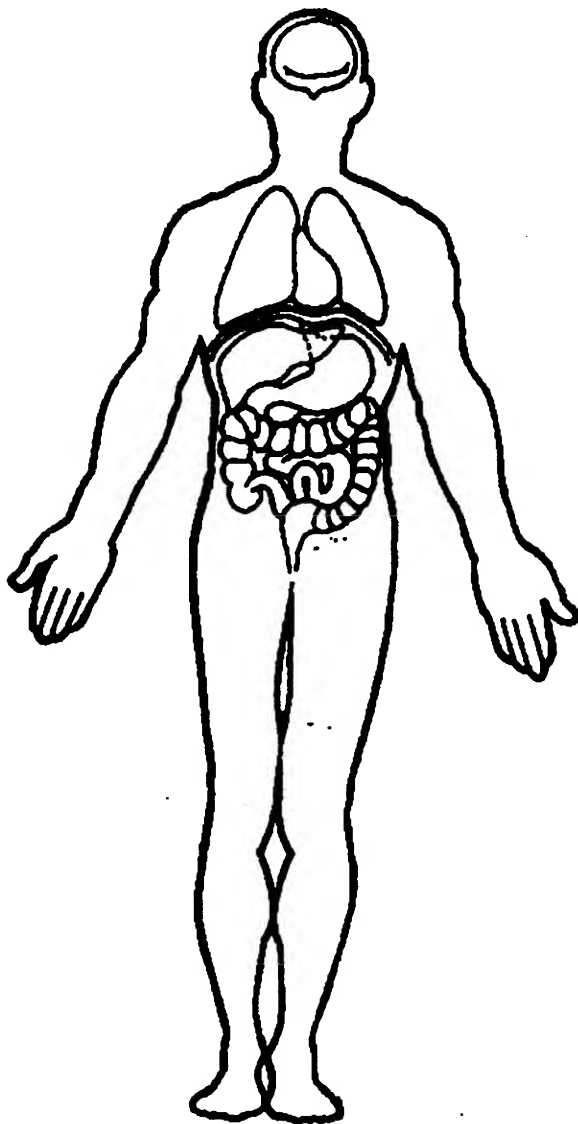
SPRAIN  
L. ANKLE  
R/F SEAT CUSHION,  
LOWER REAR PORTION



## OFFICIAL INJURY DATA — INTERNAL INJURIES

BEST AVAILABLE COPY

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)





U.S. Department of Transportation

National Highway Traffic Safety  
Administration

## CRASHPC PROGRAM SUMMARY

(All Measurements in Metric)

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NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## Identifying Title

Primary Sampling Unit DSI-94-AB-015 Case No.-Stratum 04 Accident Event Sequence No. 9 4 Date (Month, day, year) of Run

## CRASHPC Vehicle Identification

Vehicle 1 1994 DODGE SHADOW 3DOOR 01  
Vehicle 2 \_\_\_\_\_  
Year Make Model NASS Veh. No.

## GENERAL INFORMATION

VEHICLE 1		VEHICLE 2	
Size	<u>2</u>	Size	<u>11</u>
Weight		Weight	
<u>1183</u> + <u>182</u> + <u>23</u> = <u>1388</u> kg		_____ + _____ + _____ = _____ kg	
Curb Occupant(s) Cargo		Curb Occupant(s) Cargo	
CDC	<u>1 2 F Y E W 5</u>	CDC	_____
PDOF (-180 to +180)	<u>0 0 5</u> °	PDOF (-180 to +180)	<u>±</u> _____ °
Stiffness	<u>9</u>	Stiffness	_____

## SCENE INFORMATION

Rest and Impact Positions [ ] No, Go To Damage Information [ ] Yes

VEHICLE 1		VEHICLE 2	
Rest Position	X _____ m Y _____ m PSI _____ °	Rest Position	X _____ m Y _____ m PSI _____ °
Impact Position	X _____ m Y _____ m PSI _____ °	Impact Position	X _____ m Y _____ m PSI _____ °
Slip Angle(-180 to +180)	_____ °	Slip Angle (-180 to +180)	_____ °

## VEHICLE MOTION

Sustained Contact [ ] No [ ] Yes

VEHICLE 1		VEHICLE 2	
Skidding (Rotation)	[ ] No [ ] Yes	Skidding (Rotation)	[ ] No [ ] Yes
Skidding Stop Before Rest	[ ] No [ ] Yes	Skidding Stop Before Rest	[ ] No [ ] Yes
End of Rotation Position	X _____ m Y _____ m PSI _____ °	End of Rotation Position	X _____ m Y _____ m PSI _____ °
Curved Path	[ ] No [ ] Yes	Curved Path	[ ] No [ ] Yes
Point on Path	X _____ m Y _____ m	Point on Path	X _____ m Y _____ m
Rotation Direction	[ ] None [ ] CW [ ] CCW	Rotation Direction	[ ] None [ ] CW [ ] CCW
Rotation >360°	[ ] No [ ] Yes	Rotation >360°	[ ] No [ ] Yes

## National Accident Sampling System-Crashworthiness Data System: CRASHPC Program Summary

## FRICTION INFORMATION

Coefficient of Friction . \_\_\_\_\_

Rolling Resistance Option \_\_\_\_\_

## Vehicle 1 Rolling Resistance

LF \_\_\_\_\_ RF \_\_\_\_\_

LR \_\_\_\_\_ RR \_\_\_\_\_

## Vehicle 2 Rolling Resistance

LF \_\_\_\_\_ RF \_\_\_\_\_

LR \_\_\_\_\_ RR \_\_\_\_\_

## TRAJECTORY INFORMATION

Trajectory Data [ ] No [ ] Yes

If No, Go To Damage Information

## Vehicle 1 Steer Angles

LF \_\_\_\_\_ ° RF \_\_\_\_\_ °

LR \_\_\_\_\_ ° RR \_\_\_\_\_ °

## Vehicle 2 Steer Angles

LF \_\_\_\_\_ ° RF \_\_\_\_\_ °

LR \_\_\_\_\_ ° RR \_\_\_\_\_ °

Terrain Boundary [ ] No [ ] Yes

## First Point

X \_\_\_\_\_ m Y \_\_\_\_\_ m

## Second Point

X \_\_\_\_\_ m Y \_\_\_\_\_ m

Secondary Coefficient of Friction . \_\_\_\_\_

## DAMAGE INFORMATION

## VEHICLE 1

Damage Length L 1 5 2 cmCrush Depths C<sub>1</sub> 1 2 7 cmC<sub>2</sub> φ 4 8 cmC<sub>3</sub> φ 2 4 cmC<sub>4</sub> φ 1 9 cmC<sub>5</sub> φ 1 3 cmC<sub>6</sub> φ 1 1 cmDamage Offset D ⊕ φ 4 7 cm

## VEHICLE 2

Damage Length L \_\_\_\_\_ cm

Crush Depths C<sub>1</sub> \_\_\_\_\_ cmC<sub>2</sub> \_\_\_\_\_ cmC<sub>3</sub> \_\_\_\_\_ cmC<sub>4</sub> \_\_\_\_\_ cmC<sub>5</sub> \_\_\_\_\_ cmC<sub>6</sub> \_\_\_\_\_ cmDamage Offset D ± \_\_\_\_\_ cm

IF THIS COMMON IMPACT WAS WITH A MOTOR VEHICLE NOT IN TRANSPORT, FILL IN THE INFORMATION BELOW.

Model Year: \_\_\_\_\_

Make: \_\_\_\_\_

Model: \_\_\_\_\_

VIN: \_\_\_\_\_

The Weight, CDC, Scene Data and Damage Information for this vehicle should be recorded above.

Complete and ATTACH the appropriate vehicle damage sketch and dimensions to the Form.



DSI-94-AB-015

## SUMMARY OF CRASHPC RESULTS (USING SPINOUT)

## CRASH3 RECONSTRUCTION

SPEED CHANGE (DAMAGE)	VEH #1	TOTAL(KPH)	LONG.(KPH)	LAT.(KPH)	ANG.(DEG)
	VEH #1	37.0	-36.8	3.2	-5.0
	VEH #2	.0	.0	.0	.0

ENERGY DISSIPATED BY DAMAGE VEH#1: 88783.9 JOULES      VEH#2: .0 JOULES

SUMMARY OF DAMAGE DATA  
VEHICLE # 1(\* INDICATES DEFAULT VALUE)  
VEHICLE # 2

TYPE-----CATEGORY 2  
 STIFFNESS---CATEGORY 9  
 WEIGHT----- 1387.6 KGS  
 CDC-----12FYEW5  
 L----- 152.4 CM.  
 C1----- 126.7 CM.  
 C2----- 48.3 CM.  
 C3----- 23.6 CM.  
 C4----- 18.5 CM.  
 C5----- 13.5 CM.  
 C6----- 11.4 CM.  
 D----- -46.9 CM.  
 RHO----- 1.00 \*  
 ANG----- -5.0 DEG.  
 D'----- -78.5 CM.

TYPE-----CATEGORY 11  
 STIFFNESS---CATEGORY 0  
 WEIGHT----- 453600.0 KGS \*  
 CDC-----BARRIER  
 L----- .0 CM. \*  
 C1----- .0 CM. \*  
 C2----- .0 CM. \*  
 C3----- .0 CM. \*  
 C4----- .0 CM. \*  
 C5----- .0 CM. \*  
 C6----- .0 CM. \*  
 D----- .0 CM. \*  
 RHO----- 1.00 \*  
 ANG----- .0 DEG. \*  
 D'----- .0 CM.

## DIMENSIONS AND INERTIAL PROPERTIES

A1 = 117.6 CM.  
 B1 = 127.3 CM.  
 TR1 = 138.7 CM.  
 I1 = 265178.3 NEWT-SEC\*\*2-CM  
 M1 = 13.929 NEWT-SEC\*\*2/CM  
 XF1 = 211.6 CM.  
 XR1 = -232.7 CM.  
 YS1 = 85.3 CM.

A2 = 127.0 CM.  
 B2 = 127.0 CM.  
 TR2 = 127.0 CM.  
 I2 = \*\*\*\*\* NEWT-SEC\*\*2-CM  
 M2 = 4553.302 NEWT-SEC\*\*2/CM  
 XF2 = 127.0 CM.  
 XR2 = -127.0 CM.  
 YS2 = 127.0 CM.

DSI-94-AB-015

## SUMMARY OF CRASHPC RESULTS (USING SPINOUT)

## CRASH3 RECONSTRUCTION

SPEED CHANGE (DAMAGE)	VEH #1	TOTAL(MPH)	LONG.(MPH)	LAT.(MPH)	ANG.(DEG)
	VEH #1	23.0	-22.9	2.0	-5.0
	VEH #2	.0	.0	.0	.0

ENERGY DISSIPATED BY DAMAGE VEH#1: 65474.9 FT-LB VEH#2: .0 FT-LB

SUMMARY OF DAMAGE DATA  
VEHICLE # 1(\* INDICATES DEFAULT VALUE)  
VEHICLE # 2

TYPE-----CATEGORY 2  
 STIFFNESS---CATEGORY 9  
 WEIGHT----- 3059.0 LBS.  
 CDC-----12FYEW5  
 L----- 60.0 IN.  
 C1----- 49.9 IN.  
 C2----- 19.0 IN.  
 C3----- 9.3 IN.  
 C4----- 7.3 IN.  
 C5----- 5.3 IN.  
 C6----- 4.5 IN.  
 D----- -18.5  
 RHO----- 1.00 \*  
 ANG----- -5.0 DEG.  
 D'----- -30.9 IN.

TYPE-----CATEGORY 11  
 STIFFNESS---CATEGORY 0  
 WEIGHT-----1000000.0 LBS. \*  
 CDC-----BARRIER  
 L----- .0 IN. \*  
 C1----- .0 IN. \*  
 C2----- .0 IN. \*  
 C3----- .0 IN. \*  
 C4----- .0 IN. \*  
 C5----- .0 IN. \*  
 C6----- .0 IN. \*  
 D----- .0 \*  
 RHO----- 1.00 \*  
 ANG----- .0 DEG. \*  
 D'----- .0 IN.

## DIMENSIONS AND INERTIAL PROPERTIES

A1	=	46.3	IN.	A2	=	50.0	IN.
B1	=	50.1	IN.	B2	=	50.0	IN.
TR1	=	54.6	IN.	TR2	=	50.0	IN.
I1	=	23471.4	LB-SEC**2-IN	I2	=	2600104000.0	LB-SEC**2-IN
M1	=	7.954	LB-SEC**2/IN	M2	=	2600.104	LB-SEC**2/IN
XF1	=	83.3	IN.	XF2	=	50.0	IN.
XR1	=	-91.6	IN.	XR2	=	-50.0	IN.
YS1	=	33.6	IN.	YS2	=	50.0	IN.

AIRBAG SUPPLEMENT

1

## ACCIDENT SUMMARY

1. Accident Date: [REDACTED] 94

2. Police Investigated

- (1) Yes  
(2) No  
(3) Unknown

Agency: STATE POLICE

City: /

County: /

3. General Locality

- (1) Freeway, Limited Access  
(2) Urban (City)  
(3) Urban-Rural (mixed)  
(4) Rural, Fields

4. Configuration (First Harn)

- (0) Struck Object or Ped  
(1) Rear-End  
(2) Head-On  
(3) Rear-to-Rear  
(4) Angle  
(5) Sideswipe-Same Direction  
(6) Sideswipe-Opposite Dir.  
(7) Noncollision  
(8) Nonimpact Deployment  
(9) Unknown

5. Fire Involved

- (0) None  
(1) Airbag Vehicle  
(2) Other Vehicle  
(3) Both Vehicles  
(9) Unknown

6. Vehicles Involved

7. Persons Involved

8. Injured Persons

9. Maximum AIS in Accident

## AIRBAG VEHICLE INSPECTION

10. Date Vehicle Inspected: [REDACTED] 94

11. Reason Vehicle Note Inspected

- (0) Not Required  
(1) Inspection Completed  
(2) Cannot be Located  
(3) Repaired or Destroyed  
(5) Refusal or Impounded  
(7) Other:

12. Impact Data Obtained

- (0) No Data Obtained  
(1) CDC Only  
(2) Crush Profile Only  
(3) Trajectory Data Only  
(4) CDC and Crush Profile  
(5) CDC and Trajectory  
(6) Crush and Trajectory  
(7) CDC, Crush, and Trajectory

13. Basis of Delta-V

- (0) Not Computed (Unknown why)  
(1) CRASH - Damage Only  
(2) CRASH - Damage + Traj  
(3) OLDMISS  
(4) POLES  
(5) Unknown Basis  
(6) One Vehicle Beyond Scope  
(7) Collision Beyond Scope  
(8) Insufficient Data

## VEHICLE HISTORY

14. Prior Impacts for AB Vehicle?

- (1) Yes  
(2) No  
(9) Unknown

15. Prior AB Maintenance or Service

- (1) Yes, (2) No, (9) Unknown

Describe:

**AIRBAG SUPPLEMENT**

2

**AIRBAG VEHICLE**Fleet: *NONE*VIN: *1B3AP24K6RN* *xxxxxx*Mileage: *11,925 km (7,416 m.)***SYSTEM READINESS LAMP**

16. Pre-Impact Lamp Condition 9
- (1) Functioning/Proved Out
- (2) Inoperative
- (9) Unknown
17. Driver's Report of Pre-Impact Flashing 66
- (00) No Flashing Reported
- (01) Continuous Flashing
- (02)
- Number of Flashes: \_\_\_\_
- (11)
- (12) Constant Light
- (19) Flashing, Unknown Number
- (88) Not Applicable, System Removed
- (99) Unknown
18. Period of Pre-Impact Flashing 6
- (0) No Flashing
- (1) Same Day as Impact
- (2) Prior Day
- (3) Prior Two Days
- (4) Prior Week
- (5) Prior Month
- (6) Over One Month
- (9) Unknown
19. Post-Impact Lamp Condition 2
- (1) Functioning/Proved Out
- (2) Inoperative
- (9) Unknown
20. Post-Impact Flashing 66
- (00) No Flashing Reported
- (01) Continuous Flashing
- (02)
- Number of Flashes: \_\_\_\_
- (11)
- (12) Constant Light
- (19) Flashing, Unknown Number
- (88) Not Applicable, System Removed
- (99) Unknown

21.

**Airbag Vehicle First Harmful Event**44

- (01) Fire or explosion
- (02) Immersion
- (03) Gas Inhalation
- (04) Fell from vehicle
- (05) Injured in vehicle
- (06) Other noncollision (specify):
- (07) Overturn
- (08) Jackknife
- COLLISION WITH:
- (09) Pedestrian
- (10) Pedalcyclist
- (11) Railway train
- (12) Animal
- (13) Motor vehicle in transport (same roadway)
- (14) Motor vehicle in transport (other roadway)
- (15) Parked motor vehicle
- (16) Other type nonmotorist (specify):
- (17) Thrown or falling object
- (18) Boulder
- COLLISION WITH FIXED OBJECT
- (20) Building
- (21) Impact attenuator/crash cushion
- (22) Bridge pier or abutment
- (23) Bridge parapet end
- (24) Bridge rail
- (25) Guardrail
- (26) Concrete traffic barrier
- (27) Median barrier
- (28) Other longitudinal barrier (specify):
- (29) Highway/traffic sign post
- (30) Overhead sign support
- (31) Luminaire/light support
- (32) Utility pole
- (33) Other post, pole, or support
- (34) Culvert
- (35) Curb
- (36) Ditch
- (37) Embankment-earth
- (38) Embankment-rock, stone, or concrete
- (39) Fence
- (40) Wall
- (41) Fire hydrant
- (42) Shrubbery
- (43) Tree
- (44) Other fixed object (specify): *44 Y WIRE*
- (45) Pavement surface irregularity
- (99) Unknown

**AIRBAG SUPPLEMENT**

3

**AIRBAG VEHICLE IMPACT SUMMARY**

22. Vehicle Role 1
- (0) Noncollision  
(1) Striking unit  
(2) Struck unit  
(3) Both striking and struck  
(9) Unknown
23. Manner of Leaving Scene 2
- (1) Driven  
(2) Towed-due to damage  
(3) Towed-not for damage  
(4) Towed-details unknown  
(5) Abandoned  
(9) Unknown
24. Number of Impact Events 6
- (8) 8 or more  
(9) Unknown
25. Rollover φ
- (0) No rollover  
(1) First event  
(2) Subsequent event  
(3) Yes, Unknown event  
(9) Unknown
26. Override/Underide φ
- (0) No override/underide  
(1) Override - 1st CDC  
(2) Override - Other CDC  
(3) Underide - 1st CDC  
(4) Underide - Other CDC  
(9) Unknown

**AIRBAG VEHICLE DAMAGE**

CODES: (1) Yes, (2) No, (9) Unknown

27. Left Front Fender Damage 1
28. Right Front Fender Damage 1
29. Center Top of Grille Damage 1

**FRONT BUMPER E.A. STATUS**

30. Left 4
31. Right 3
- (1) Normal  
(2) Extended  
(3) Partial Compression  
(4) Complete Compression  
(5) Not Applicable  
(9) Unknown

**FIRST AIRBAG VEHICLE IMPACT:**

32. Configuration φ
- (0) Struck Object or Ped  
(1) Rear-End  
(2) Head-On  
(3) Rear-to-Rear  
(4) Angle  
(5) Sideswipe-Same Direction  
(6) Sideswipe-Opposite Dir.  
(7) Noncollision  
(8) Nonimpact Deployment  
(9) Unknown

33. CDC: 12 FYLN1

34. Object Contacted: GUY WIRE

**PRIMARY/DEPLOYMENT IMPACT:**

35. Event Number 4
36. Total Delta-V (23MPH) 37 KPH
37. Longitudinal Delta-V (-23MPH) 37 KPH
38. Configuration φ
- See 32 above for codes
39. CDC: 12 FYEW5
40. Object Contacted: 64.3cm DIA. TREE



**AIRBAG SUPPLEMENT**

4

**AIRBAG SYSTEM DAMAGE**

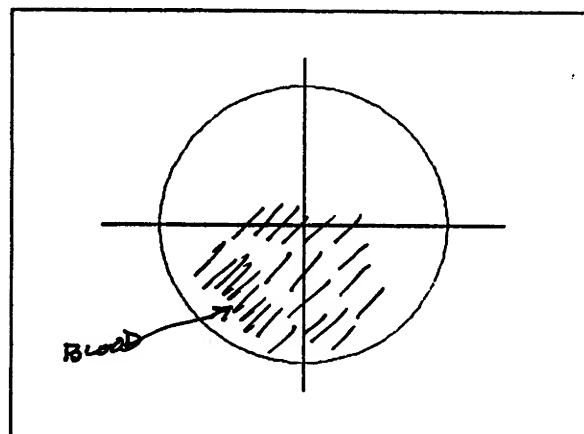
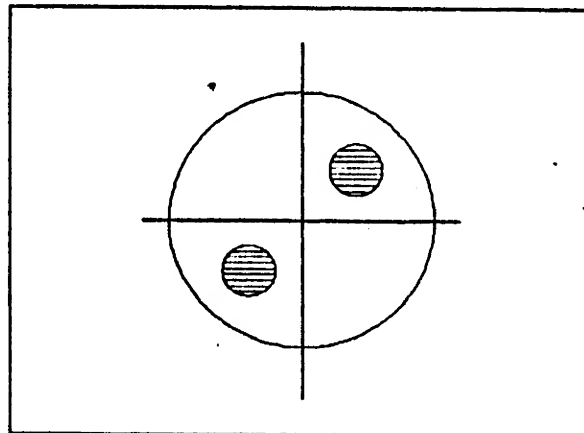
CODES: (1) Yes, Damaged  
 (2) No, Intact  
 (3) Not Applicable  
 (9) Unknown

**DESCRIBE SYSTEM AND BAG DAMAGE:**

*L/F SENSOR & Assoc. Wiring Completely  
 DESTROYED BY IMPACT*

- |   |  |
|---|--|
| 41. Airbag Module   | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> |
| 42. Left Front Sensor   | <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> |
| 43. Center Front Sensor   | <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> |
| 44. Right Front Sensor  | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> |
| 45. Rear Cowl Sensor  | <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> |
| 46. Diagnostic Module   | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> |
| 47. Wiring  | <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> |
| 48. Knee Diverter   | <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> |
| 49. Indication of disconnected<br>or loose electrical<br>connectors | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> |
| 50. Condition of Deployed Bag                                       | <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> |
- (1) Bag intact  
 (2) Split or torn  
 (3) Cut by object in impact  
 (4) Cut after accident  
 (5) Other  
 (8) NA (not deployed)  
 (9) Unknown

**NOTE DAMAGE AND CONTACT MARKS ON AIRBAG DIAGRAMS  
 BELOW:**

**FRONT****BACK**

**AIRBAG SUPPLEMENT**

5

**OCCUPANTS OF AIRBAG CAR**

51. Number of Occupants in Vehicle 3
52. Number of Injured Persons 3
53. Maximum AIS in Airbag Vehicle 5
- (0) No Injury
- (1-6) AIS Severity
- (7) Injured, unknown severity
- (9) Unknown

**DRIVER**

Age: 23

Sex: male

54. Number of Driver Injuries 14

55. Source of Best Injury Data 2
- (0) Not injured
- (1) Autopsy
- (2) Hospital Medical Records
- (3) Emergency Room only
- (4) Private physician, clinic
- (5) Lay Coroner Report
- (6) EMS Personnel
- (7) Interviewee
- (8) Police
- (9) Unknown

**MAXIMUM AIS BY BODY REGION**

REGION	MAX AIS	CONTACT
Head/Neck/Face	<u>5</u>	<u>14</u>
Chest	<u>1</u>	<u>41</u>
Abdomen	<u>1</u>	<u>41</u>
Legs/Hips	<u>3</u>	<u>49</u>
Other (Arms)	<u>1</u>	<u>20</u>
Driver Maximum	<u>5</u>	<u>14</u>

EJECTION - None

Extent: N/A

Portal: N/A

**OTHER VEHICLE: None - Fixed Objects**

Maximum AIS \_\_\_\_\_

 Prime/Deploy Impact w AB Vehicle  
 Event Number \_\_\_\_\_

CDC:

Total Delta V \_\_\_\_\_

Make:

Model Year:

Model:

Body Type:

**NOTES:**

**AIRBAG SUPPLEMENT**

6

DRIVER BELT USAGE: (1) Used (2) Not Used (9) Unknown

1Evidence: *INJURIES AND LOAD MARKS ON WEBBING*

DRIVER POSTURE: Any comments Recorded (1) Yes, (2) No

2

Describe driver's posture and position on seat including specific comments on head, torso, buttocks, legs, and feet. Also note hand and arm position. Did driver brace before crash? Describe:

DRIVER FOREIGN OBJECTS: Comments Recorded (1) Yes, (2) No

2

Was driver wearing contact lenses or eyeglasses? Or holding any foreign object at the time of the impact (packages on lap, pipe, food, bottle, cigarette, etc.)? Did any lenses, objects, or jewelry play any role?:

DRIVER COMMENTS: Comments Recorded (1) Yes, (2) No

2

Was the driver aware that the vehicle was equipped with a supplemental restraint system? Did driver offer any comments on smoke, noise, etc.? Did the driver comment on the airbag as a restraint system? Describe:

PASSENGER-AIRBAG CONTACT: (1) Yes, (2) No, (9) Unknown

2

Describe: